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## ORIGINAL LECTURES.

### ON ANTISEPTIC PULMONARY MEDICATION.[1]

*A Clinical Lecture, delivered in Cochin Hospital.*


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OF PARIS, FRANCE.


GENTLEMEN: One may affirm, without fear of being accused of exaggeration, that antiseptic pulmonary medication, such as we may ideally imagine it to be, is destined to have a high place in the therapeutics of the future. In fact, in all that concerns the contagion of diseases, the air is the most important factor, and whoever shall succeed in depriving the atmosphere of its germs, will render the greatest possible service to medicine and to hygiene.

Thanks to the brilliant discoveries of Pasteur, and to Miquel's patient investigations, we know to-day by scientific means, not only the number of the microorganisms which flit about in the air, but also the divers varieties of these microbes, which belong especially to the genera micrococcus, bacillus, and bacterium, but more particularly to the first of these genera.

Microbiologists have even gone further; they have commenced the study of these different schizophytes from a botanical point of view, as well as from a physiological; and there is one fact which we have learned from these studies, namely, that when the bacteria thus collected from the air have been cultivated in suitable media and inoculated in animals, they have given rise to nothing but negative results, and it has not yet been possible to reproduce in animals contagious diseases by the introduction of these microörganisms. But, as Miquel has justly remarked, these results should be accepted with the greatest reservation, and one may well ask if the procedures put in usage for the collection and cultivation of the schizophytes may not be sufficient to destroy their virulent properties.

As you might have foreseen, the greater part of these microörganisms—that is to say, eighty per cent.—are aërobiotic—*i. e.*, they have need of oxygen to live and develop.

As for their number, I showed you in one of my late lectures that this varies according to the localities where they are collected, and that the purity of the air is in inverse proportion to the microbes it contains. While in high altitudes you find but very few microbes to each cubic metre of air, it is by the thousands that you meet with them in our hospital wards; and when you reflect that a man breathes through his lungs in twenty-four hours ten cubic metres of air, you can form an estimate of the prodigious number of microorganisms which penetrate by this channel, which forms the most easy and rapid mode of entrance into the organism of infectious or medicinal principles. In fact, substances which penetrate by the lungs, are carried almost directly to the left ventricle, and thence are distributed through the entire organism, and this explains the interest which Claude Bernard took in the method of tracheal medicinal injections in cases of urgency.

I am well aware that, by a lucky anatomical conformation, man breathes only exceptionally by the mouth, and that the air penetrates chiefly by the nasal fossæ, which, by their anfractuosities, act the part of the filtering apparatus employed by Pasteur to purify the air, but this filtration is very often incomplete, since it is by the pulmonary passages that the contagious and infectious diseases are chiefly transmitted.

I cannot here, in this purely medical lecture, discuss in its entirety the subject of antiseptic pulmonary medication, which, by its developments, constitutes one of the grandest chapters of modern hygiene, that of the aëration, ventilation, and disinfection of dwelling-houses.

I shall only refer in this connection to the divers experiments in which you took part on the occasion of the recent cholera epidemic, when Dr. Roux and myself, under the direction of M. Pasteur, showed that of all the antiseptic gases, the most active is sulphurous acid, and this chiefly by reason of its power of penetration. We proved that in the proportion of twenty grammes to each cubic metre of space, sulphur in undergoing combustion destroys the microörganisms contained in a liquid, and that in the proportion of forty grammes to each cubic metre it destroys the same microörganisms in a state of desiccation. But in such media man cannot live, and what we want especially to find, is some safe disinfectant, whether liquid or gaseous, which will destroy the schizophytes, while permitting man to sojourn in the medium where this disinfection is practised.

I know that researches in this direction are being earnestly pursued, and that hope has been entertained that we may find in ozone one of these parasiticide agents, but thus far experiments have not given results confirmed with all the scientific rigor which such researches demand. Others, going back to a notion already put in practice in the middle ages, have thought that the introduction of these microörganisms into the economy might be avoided by the application of protective masks or respirators, such as are used in workshops and factories where the air becomes impregnated with noxious dust; the breathing air being filtered through layers of cotton. I will not dwell longer on this point, desiring merely to hint at this side of antiseptic pulmonary medication. But there is another aspect of the question on which I desire to dwell longer, it is that which concerns the destruction of certain microörganisms which are the efficient causes of pulmonary affections, and I wish in particular to say something about the action of antiseptic substances on the microbe of tuberculosis.

[1] Translated, from advance sheets, by E. P. Hurd, M.D., of Newburyport, Mass.

When at the end of 1882 Koch, in his remarkable communication, demonstrated the microbiotic nature of phthisis, he by this discovery revolutionized the history of tuberculosis, and gave a striking experimental confirmation of the theory advocated many years before by my learned colleague and friend Dr. Villemin.

When Villemin in 1865, in his brilliant work on tuberculosis, announced that this disease was virulent, contagious, and inoculable, he raised in the medical world a real tempest, which was not allayed at the time of the appearance of Koch's researches, and many of the most eminent physicians disputed several of the terms of Villemin's definition. To-day all disputation has ceased before experimentation, and everybody is agreed that the bacillus tuberculosis is the real contagious agent of this disease.

But the application of Pasteur's views was destined not to be limited to tuberculosis; these views were soon to modify and revolutionize a disease which has been considered as the type of inflammatory diseases. On the 19th of November, 1883, Friedlander, completing the first researches which he had made in 1882, showed by decisive experiments that there exists a schizophyte proper to pneumonia, and a few days later, namely, November 30th, Talamon, at the Anatomical Society, made known the result of his researches, and showed that if he did not absolutely agree with Friedlander respecting the form of the bacillus observed, he none the less considered it as the causal agent in pneumonia.

These experimenters thus gave justification to the tentatives made in 1878 by Klebs, who, under the name of *monas pulmonale*, had described a microbe peculiar to pneumonia.

This discovery of a microörganism as cause of certain pulmonary affections ought to be utilized by therapeutics, and just as in basing myself on new experimental researches, I endeavored to establish an antiseptic intestinal medication, so also I would venture to suggest the first principles of an antimicrobic pulmonary medication:

Let us see first what data experimentation can furnish us, and here I shall take as my basis the labors recently undertaken in France, and, in particular, the able researches of Hippolyte Martin, who has performed experiments of the greatest interest on tubercle and inoculation by tubercle.

Hippolyte Martin first established the fact that inoculation constitutes the best means of recognizing the real nature of tubercle. When, in fact, you inoculate in animals—guinea-pigs or hares—foreign bodies, or septic matters, you determine in these animals granulations more or less generalized in all the viscera, and which macroscopically and microscopically are identical with tubercles. But that which enables us to distinguish pseudo-tubercles from true tubercles, is that the former have no power to produce tuberculosis in other animals, while, on the contrary, true tubercle indefinitely reproduces the same disease in animals in which it is inoculated, so that even before the discovery of Koch's bacillus (as early as 1881), Hippolyte Martin had been able experimentally to demonstrate the proposition: *tubercle alone engenders tubercle.*

From these experiments, this capital fact is put in clear light, that when you would judge of the real value of antiseptic substances in the destruction of the bacillus of tuberculosis, it is not sufficient to practise one inoculation alone, which may cause the production of pseudo-tuberculous granulations, but the inoculations should be in series—*i. e.*, the products of one inoculation being inoculated in another animal, and so on, and all experimenters who have not taken care to avoid this source of error, must expect to see their results called in question.

Repeating the experiments of Arloing, of Cornevin, and of Thomas, who had made trials of the different antiseptic agents to antagonize the anthracoid bacteria, Hippolyte Martin, in his turn, experimented with these antiseptics against the bacillus tuberculosis. This was his manner of procedure: He crushed and pressed portions of viscera studded with tubercles, and the juice which he squeezed out was put in contact with the fresh amniotic liquor of a sheep, and to the whole was added a given quantity of the medicament to be experimented with; in this way trials were made with salicylic acid, bromine, carbolic acid, creasote, quinine, and corrosive sublimate. These mixtures were injected into the peritoneum of guinea-pigs, and on the death of the animals the inoculations were continued in order to ascertain the real value of the granulations which were found at the autopsy.

In the case of salicylic acid, solutions of five per cent. were powerless to destroy tubercle. Bromine in solution, 1 per 10,000, and 1 per 1000, also proved to be inefficacious; at 1:500 the action was more marked, but in this strength the solutions are caustic. In the case of phenic acid, solutions of 1:1000 had no effect, and even those of 3:100 or 6:100 had a doubtful action, although caustic effects were manifest. Creasote, so much vaunted in tuberculous affections, failed to destroy the bacillus of tuberculosis, even in the proportion of 1 per 1000; and it was the same with quinine. In fine, corrosive sublimate, which has justly been considered as one of the most powerful antiseptics, proved itself without action upon the microörganism of tuberculosis even in the proportion of 1 per 1000.

What do all these experiments go to show? This surely, that the tuberculous element offers an extraordinary resistance to all antiseptic agents, and that, in order to destroy it, you must at the same time destroy the living tissues which are its habitat. In these experiments we must, in fact, carefully distinguish the antiseptic from the caustic action. When you destroy by a physical or chemical agent the elements of a tissue, you thereby abolish its virulent properties; this is, for example, what happens by heat. Hippolyte Martin, in fact, obtained destruction of the tubercle bacillus by heat, and true tubercle was transformed into an inert body when the temperature of 85° C. was exceeded, and this result was the more certainly attained by a temperature of 100° C. and above.

In a manuscript note, which Hippolyte Martin has kindly put into my hands, he signalizes the favorable effects of hydrofluoric acid, which in the proportion of 1 per 3000, and, perhaps, of 1 per 4000, appears to be destructive to the parasite of tubercle. But we must

[1] Hippolyte Martin: On the transformation of true or infectious tubercle into an inert foreign body under the influence of high temperatures and various reagents. Arch. de Phys., 1881, p. 93; Revue de Méd., 1882, t. ii. p. 905, and 1883, t. iii. p. 209.

not, at the same time, forget the extreme causticity of this acid, which acts much more as a destroyer of tissue than as a veritable aseptic.

However, all the experimenters have not arrived at the same conclusions as Hippolyte Martin. Thus it is that Vallin, in the interesting communication made this year to the Academy of Medicine, has shown us that burning sulphur, in the proportion of one ounce to the cubic metre, destroys the virulent properties of tubercle juice. Corrosive sublimate, in the proportion of 1 per 1000, has the same action, but in that of 1 per 2000 it is inefficacious, while nitrosyle, in the proportion of 66 centigrammes per cubic metre, also causes sterilization of tubercle juice. Vallin's procedure was a little different from that of Hippolyte Martin; he made use of strips of filter paper soaked in distilled water; between these strips tuberculous products were crushed, then the paper was dried in the open air, and submitted to the action of divers disinfecting agents; they were finally soaked again in distilled water, and the liquid obtained by expression was injected into the peritoneum of guinea-pigs.

A physician of Allevard, Dr. Niepce, has lately affirmed that sulphuretted hydrogen destroys the bacillus of tuberculosis in the sputa of phthisical patients, and that the sputa thus acted upon become powerless to induce tuberculosis in animals.

A graduate of the school of Montpellier, Dr. Pilate, has repeated, with the aid of Drs. Cavalier and Mairet, the experiments of Niepce, and he affirms that of all the agents with which he has experimented, such as mercuric iodide, corrosive sublimate, helenine, thymol, iodine, carbolic acid, boric acid, the most active is sulphuretted hydrogen. Dr. Sormani and Brugnatelli claim to have obtained an antibacillary action with a certain number of liquids, and even in feeble doses. On the other hand, the experiments made in 1883 by Coze and Simon are absolutely confirmative of those of Hippolyte Martin. These experimenters have divided their researches into three groups. In a first series they mixed forty centigrammes of phthisical sputa, in which they had previously noted the presence of bacilli, with different antiseptic substances; then, after forty-eight hours' contact, they injected these mixtures in guinea-pigs in the region of the groin.

In a second series of experiments they injected only tuberculous matter; then they practised immediately afterward, and for several days in succession, antiseptic injections in the region of the first tuberculous inoculation.

Finally, in the third series of experiments, they endeavored to see if they could arrest the development of the disease in animals already the subjects of tuberculous evolution.

They thus, in their three series of experiments, made trials of bichloride of mercury, eucalyptol, sulphuretted hydrogen, creasote, helenine, thymol, etc. The last two series of researches gave nothing but negative results, and as for the first, creasote alone seemed to them to retard the local development of tuberculosis.

What conclusion shall we draw from all these experimental researches? Must we admit that in man the bacillus of tuberculosis resists all our therapeutic measures? Such a conclusion, gentlemen, would be altogether too premature. These experiments show us that in animals such as the guinea-pig and hare, which present a singularly favorable soil for the development of tuberculosis, our medicinal agents show themselves impotent to destroy the bacillus. But this is not the case with animal species, which offer a better resistance to the bacillus—the dog, for instance—and here we see the bacillary inoculations often fail. It is the same with man, and before the discovery of Koch (as well as since) we were in possession of unimpeachable observations showing the cure of bacillary phthisis. So, while recognizing the useful indications furnished by experimental researches, we must, in order to appreciate their just value, turn to clinical observation.

The discovery of the bacillus, and the experiments which we have just mentioned, indicate to us the therapeutic paths which we are henceforth to pursue, and which comprehend two principal lines of investigation—the one, by which we are to endeavor through medicinal means to oppose the multiplication of bacilli, and the other, by which we seek by hygienic means so to modify culture medium, that it shall be unfit for the habitat of the bacilli.

Prof. Germain Sée, in his work on *Bacillary Phthisis*, has insisted at great length on the new departure which ought to be taken by the therapeutics of tuberculosis since Koch's discovery, and what conditions should be fulfilled by the antivirulent agent, which he calls *necrophytic*.

In the first group of agents, we have chiefly medicinal inhalations, and medicaments which are eliminated by the lungs.

Among the medicinal inhalations, it is substances such as iodine, iodoform, eucalyptol, corrosive sublimate, phenic acid, etc.—in a word, the least irritant antiseptic agents—which should be recommended; and our late venerated master, Piorry, seems to have had prevision of its parasiticide power, when, with such persistence, he insisted on the utility of iodine inhalations in tuberculosis. I believe, also, that iodoform, so much vaunted these late years, may be utilized in these inhalations, being not only a very active aseptic agent, but also a powerful sedative.

You know how these inhalations are practised. They consist in aspirating a current of air through medicinal solutions, and breathing the air thus medicated. A wash-bottle with two tubes communicating with the exterior (one tube dips beneath the liquid), answers the purpose. You can, if you prefer, use the inhaler of Le Fort, of Lille, in which the air penetrates to the liquid through holes in the sides. Le Fort puts into his bottle the following mixture: Camphor, 8 parts; tar, 4 parts; tincture of iodine, 4 parts; Hoffman's anodyne, 1 part. You may also employ some of the more complicated inhalers, in which the air is not aspirated by the patient, but projected upon him by a ventilator operating by clock-work, as in Haro's apparatus.[1] Haro uses iodoform principally, in the pulverization of which it is necessary that the temperature of the mixture should be kept raised. You have seen me use in one of our wards an ingenious vaporizer devised by M. de Linières. This vaporizer, which is put in operation by

[1] Haro: On a New Kind of Inhalations Practised at Amelie les Bains; Bull. de Thérap., t. cvi. p. 409.

Le Fort: On a New Inhaler, and its Action in Pulmonary Affections; Bull. de Thérap., t. ci. p. 342.

a rotatory movement, projects in the ward vapor of water charged with iodoform; but it will take us many months to estimate at their just value the effects of these vaporizations of iodoform upon our tuberculous patients. And now, while on this subject of antiseptic inhalations, I ought to speak to you of the experiments being performed at the present time by my pupil, Dr. Chevy, with hydrofluoric acid, experiments which have been made the subject of his inaugural thesis.

Struck by the results indicated by Hippolyte Martin, demonstrating the remarkable antibacillary action of hydrofluoric acid in tuberculosis, it occurred to me to employ this acid in inhalations; Dr. Bergeron had pointed out the extraordinary effects which he had obtained from the vapors of this acid in the treatment of diphtheria, while Chevy and myself were showing that animals might live without inconvenience in an atmosphere containing 1 part of hydrofluoric acid to 1155 parts of air.

Moreover, a careful investigation made in the great establishments where hydrofluoric acid is used for etching on glass, enabled us to determine, not only that an atmosphere thus charged with hydrofluoric vapors is not injurious to the workmen, but that, on the contrary, individuals suffering from chest affections had experienced favorable effects therefrom; on this point the overseers of the works are unanimous.

We have since then been experimenting by placing our patients in a special ward, of a capacity of about twenty-two cubic metres, in which apartment we vaporized one grain of pure hydrofluoric acid (which would give the proportion of about 1 part to 25,000); the liberation of the hydrofluoric acid is obtained by placing the liquid acid in a small leaden cup heated in a sand bath. Our tuberculous patients remain an hour in this atmosphere. I can say nothing as yet of the results which this experimentation may give; before formulating any positive conclusions these trials must be continued for months and even years.

What I can, however, affirm, is that in the immense majority of cases these inhalations of hydrofluoric acid have not been at all inconvenient to our patients. Some of them have experienced a little irritation in the throat, due to the local action of the acid, but the majority have derived a certain benefit in the way of diminution of the cough and expectoration. I am inclined to think that these inhalations in their application to the treatment of tuberculosis constitute a remedy of much promise.

But permit me, since I am now on the subject of hydrofluoric acid, to say, that of all the antiseptics known, this is, perhaps, the most powerful, and in the experiments which Chevy and I undertook, it required but infinitesimal quantities to arrest fermentation. Pardon, gentlemen, this long digression, but the most of you have followed with interest the experiments to which I have alluded, and I thought it worth the while to sum them up on this occasion. I come back again to my subject, and mention among the means to employ in the treatment of phthisis, antiseptic sprays.

In my opinion these latter are very much inferior to the inhalations, for it is only exceptionally that these pulverizations penetrate to the interior of the lungs. Dr. Miquel, however, claims to have obtained good results in tuberculosis from pulverizations of the following mixture: biniodid of mercury, 1 part; laudanum, 20 parts; distilled water, 2000 parts.

In order to obtain a more immediate action, it has been advised to inject the antivirulent solutions directly into the pulmonary parenchyma. This practice has been attempted in Germany by Heller, who has thus made, in three patients affected with phthisis, intra-parenchymatous injections of corrosive sublimate in solution.

In France, Prof. Lepine and his pupil, Truc, have repeated these experiments. This is their manner of procedure: they employ alcohol at 90° containing a variable proportion of creasote, 2 to 4 per cent.; they use for these injections the syringe of Pravaz with the No. 1 needle of Dieulafoy's aspirator, and have already performed twenty-five injections on fifteen patients, introducing each time into the parenchyma of the lungs a quantity of the creasote solution varying from a few drops to fifteen or twenty cubic centimetres.

The results thus far have been uncertain, and in patients affected with advanced lesions they have observed hardly any symptoms of amelioration. Therefore, Lepine and Truc speak very reservedly respecting the definite curative value of these parenchymatous injections, and, for my part, I think that such injections are likely to be more dangerous than useful.

Internally, it is still to such medicaments as creasote, the turpentines, the sulphur preparations, that you will resort; these may render service by their elimination by the pulmonary passages. But whatever parasiticide action these agents may be supposed to possess, they must still yield the palm to the modifiers of nutrition, which render the organic soil unfit for the microbes.

Until by a more exact acquaintance with the bacillus and the conditions of its culture and development, we shall be able, as in the case of anthrax and rabies, to prepare an attenuated virus which, by its inoculation in man, shall preserve him from being the prey to these bacilli, we must direct all our efforts to create in individuals predisposed to tuberculosis a soil unfavorable for the culture of the bacillus. To obtain this result we must utilize two factors: air and alimentation.

Although we have not very precise data respecting the action of the air under different degrees of pressure on the microörganism of tuberculosis, and new researches are needed before we can come to any definite conclusion on this point, we have very good evidence that high altitudes are unfavorable to these bacilli, and even destroy them. The law established by Jourdanet, that at certain altitudes phthisis does not exist, finds a certain confirmation in this fact, that the higher you go, the fewer the microbes you find in the air.

As for alimentation, the method first brought into vogue by Debove has proved to be of the highest utility, and it is to-day generally admitted that, in certain cases where the integrity of the digestive tube is complete, one may, by superalimentation, obtain amelioration and even cure in pulmonary consumption. The important communication of Broca and Wins[1] has given us many conclusive observations to this effect,

[1] Chevy: Thèse de Paris, 1885, and Bull. de Thérap., April 15, 1885.

[1] Broca and Wins: Bull. de Thér., 1883, t. cv. p. 289.

and my pupil Dr. Pennel published in 1882 a series of cases where the beneficial action of this forced feeding was most manifest,[1] and I am astonished that the homœopathic physicians who often give such scrupulously nice attention to the details of their hygienic treatment, have rejected, as Jousset has done, the employment of superalimentation, by powders of meat, for a vegetarian regimen.

I cannot here enter into the details of this superalimentation; you known that, by reason of recent improvements in the manufacture of meat powder, we can now give the latter in chocolate and in syrups, a consequence of which is that we do not now employ "gavage" in pulmonary complaints, reserving it exclusively for patients affected with dilatation of the stomach or persistent vomiting of food. Here, too, I have abandoned the stomach tube which I formerly used, and which goes by the name of "*gaveuse*," for the tube of Debove, which, owing to its resistance and small volume, is introduced without the least difficulty.

What I can affirm, is that in tuberculous patients that have profound and obstinate anorexia, or that vomit their food under the influence of the least effort of coughing, gavage will sometimes give you exceptionally good results. Under its influence the appetite returns, the strength improves, and what is a singular fact, and one not well explained, is that while all food introduced by the mouth is vomited, the alimentary mixtures introduced directly into the stomach by the siphon are well supported, I assign then a preponderant *rôle* to superalimentation in the antiseptic treatment of tuberculosis, and this, because it constitutes, in my opinion, our most powerful means of modifying the culture soil.

As you see now, if Koch's discovery has not already revolutionized the therapeutics of pulmonary phthisis, it has nevertheless enabled us to give a scientific explanation of the *modus operandi* of the greater part of the medicinal agents which we use, and for this very reason it constitutes a step in progress, both from a therapeutic and a prophylactic point of view. This great fact of the contagiousness of tuberculosis is to-day admitted without dispute, and we see on all sides hygienists as well as physicians endeavor to establish on a scientific basis the hygiene of the tuberculous. When you reflect, gentlemen, that at this very time (December, 1885) scarcely three years have elapsed since the discovery of the microbe of tuberculosis, and when you consider the large number of scientific researches and the already voluminous literature to which it has given rise, you cannot fail to entertain with me the hope that the day will come when, better enlightened as to the life history and mode of development of the bacillus, we shall be able to destroy it in the living organism, or at least attenuate its effects.

## ORIGINAL ARTICLES.

### A YEAR'S WORK IN LAPAROTOMY.

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DURING the past year I have had forty-four cases of laparotomy, with four deaths, as follows:

| | Cases. | Deaths | Recoveries. |
|---|---|---|---|
| Ovariotomy | 28 | 2 | 26 |
| Oöphorectomy | 9 | 1 | 8 |
| Hysterectomy | 2 | 1 | 1 |
| Exploratory incision | 4 | | 4 |
| Pelvic abscess | 1. | | 1 |
| Total | 44 | 4 | 40 |

Of these forty-four cases, twenty-five were operated on in my private infirmary, with two deaths; twelve were operated on at the Hospital of the University of Pennsylvania, with one death; and seven were operated on at the home of the patients, with one death. Of these four deaths only one was due to septicæmia, and that, a case of oöphorectomy, occurred in a private room at the Hospital of the University. It was, I think, in no wise due to hospitalism, but to the adverse complications of the case. The ovary and oviduct were filled with pus, and so matted by inflammation to adjacent structures that only a portion of them could be removed, and that in fragments. The pus unavoidably escaped into the abdominal cavity, which was carefully cleansed and a drainage tube put in, yet a fatal inflammation set in. Another death was due to shock after the removal of the womb containing a fibroid tumor with universal adhesions, and weighing seventeen pounds, The two deaths after ovariotomy were not due to septicæmia, and are somewhat mysterious. Case 139 was operated on at her home in Bedford, Pa., and I did not see her again. The cyst was parovarian, weighing forty-three pounds, and both ovaries were removed. There was not an adhesion, and the operation was a very easy one. For twelve days she did perfectly well; the stitches were removed and the bowels opened. Then an obstinate vomiting set in, which ended her life on the seventeenth day. No autopsy was permitted, but six months before the operation she had had an analogous attack of vomiting, which nearly killed her—her physician, an able practitioner, having, in fact, given her up. In Case 156 death resulted from a supposed attack of malaria. Both ovaries had been removed, the larger one weighing about thirty pounds. There were omental adhesions and very firm ones to the abdominal wall, needing a number of ligatures. She recovered promptly from the operation, the wound united, the stitches were removed, and she was allowed to sit up out of bed. In short, she seemed so certainly convalescent, that I reported her as my twenty-fifth consecutive case of ovariotomy with but one death. On the seventeenth day malarial fever, to which she was subject, set in with bilious vomiting, and, in spite of all I could do, she died rather suddenly on the twenty-first day, with symptoms of heart-clot.

In Cases 136, 138, and 140 the cysts had burst a few hours before the operation, and, although the peritoneum seemed thickened and injected, no bad results followed. In Case 148 the cyst had burst fifteen times, and had been tapped twice before the operation. The tumor was a suspicious-looking thin-walled multilocular cyst of the left ovary. Some of the cysts were filled with pus, others with a clear fluid. The right ovary, which was as large as an apple and filled with a colloid material, burst while

[1] Pennel: Alimentation in Phthisis, Bull. de Thér., t. cii. p. 85.

being removed, and its contents escaped into the abdominal cavity, yet the patient recovered promptly without the use of a drainage-tube. Let me here say that, in my opinion, the danger attributed to the escape of the contents of an ovarian cyst into the peritoneal cavity is much overrated. For instance, some German ovariotomists never use a trocar. They simply incise the cyst, letting the contents fly where they will, and, of course, some must get into the abdomen however it may be protected. So often in my hands has this happened from the bursting of cysts during the process of breaking up adhesions, that I have ceased to be disturbed by the accident. It always necessitates a more careful sponging out of the peritoneal cavity, and, in case the escaping fluid is purulent, a drainage-tube should be used.

There is another point on which my experience may be of value to others, and that is, that Monsel's solution of iron can be applied with impunity to large oozing surfaces. But there must not be a redundancy of the fluid, and it should be applied either by the tip of the finger wetted with it, or by a small sponge well squeezed out. Although appearances are against its use, the blackened and charred-looking flesh does not appear materially to add to the risk of the operation, and it is a great comfort to operators to know this.

From the seventeen cases of double ovariotomy it will be seen that I still adhere to removing the second ovary in women who are near the climacteric, or who have passed it, and always in younger women if it exhibits any trace of disease. I am led to this because there is undoubtedly a great tendency for the second ovary to take on cystic degeneration. It will be observed that in Case 142 I had removed the right ovary four years previously, from a lady aged forty-two. There was not the slightest chance of her ever becoming pregnant again, and I think that, considering her age, the left ovary, however healthy, should have been removed. Early in 1885 it began to enlarge very rapidly, giving the lady much mental and physical distress. In fact, I never saw a patient suffer more from an ovarian cyst. Great abdominal pain and constant nausea and vomiting were the prominent symptoms. For these I had to empty the cyst twice by aspiration. The first time, on March 9th, great relief followed for a few days; the second time, on April 1st, nothing whatever was gained, and I was compelled to operate while she was in a desperate condition of weakness from excessive vomiting. For two days there was a lull in the symptoms, then the old stubborn vomiting set in, which now rapidly reduced her. It was finally controlled by very large doses of calomel—fractional doses not having succeeded. The lady eventually got well, but her nervous system has received a shock from which she has not yet recovered, and perhaps never will. Year before last, I had to remove the second ovary from a woman advanced in life, from whom I had removed an ovarian cyst four years before. Both cysts were colloid, and I believe, from the general infection of the abdominal cavity, that the second one was malignant. The woman died on the fourteenth day from progressive exhaustion, and I cannot but think that, had both ovaries been removed at the first operation, she would still be alive. These two cases, therefore, incline me to consider that, other things being equal, it is erring on the safe side to remove both ovaries.

With regard to papillomatous cysts, I have about made up my mind to consider all benign, until the subsequent history determines otherwise. Cases 136, 138, and 140 exhibit remarkable groups of papillary growths. In the former the whole abdominal peritoneum was studded with them; yet the three patients did well, and have since kept extremely well. In fact, I cannot now recall a case of papillary degeneration which turned out to be malignant. Papillary growths, however, tend to weaken or destroy the wall of the cyst at some point, and these are the cysts which so often burst either before or during their removal. In each one of the cases here referred to, the cyst had burst some days before the operation.

With regard to malignancy, I am sure that Case No. 149 was an example. Both ovaries were similarly affected with a racemose variety of cystic degeneration—that is to say, the cysts were all small, but distinct and separately attached to one common stalk, like a bunch of grapes. The microscopic examination did not reveal either the cells of sarcoma or of carcinoma; yet, from the macroscopic characteristics of the twin growths, I was very confident of their malignancy. The subsequent history confirmed this opinion, for while she recovered promptly from the operation, and for a few weeks was much better, her health unaccountably began to fail, and she died four months later from otherwise inexplicable exhaustion. Malignancy occasionally lurks insidiously in the most benign-looking cysts. A little more than a year ago I removed an adherent cyst which did not arouse the slightest suspicion of malignancy. Lately the lady has presented herself with an epithelial cancer in the upper angle of the incision, which was a long one. In my first case of ovariotomy the same thing happened, the woman dying a year later from malignant disease of the cicatrix.

It will be seen that the proportion of difficult cases was a large one. In some the difficulties to be encountered were apparent beforehand; yet in not a single instance have I declined to operate on account either of the low condition of the patient or of the dangerous character of the adhesions. Out of the twenty-eight cases of ovariotomy there were twenty-one with adhesions. In four of the latter the adhesions were universal, in eight more they were intestinal, and in three they were uterine. Case 135 was perhaps the most difficult operation I ever encountered, and I cannot to this day say whether the tumor was ovarian or not. The cyst was so universally adherent to intestine, womb, bladder, liver, and stomach that it did not have a square inch of unattached surface. It was slowly enucleated, and removed without a pedicle; but very many ligatures were needed. During this process the bladder was torn. The rent was secured in the lower angle of the abdominal wound, and a drainage tube put in; but an urinary fistula is now present, which will have to be operated on at some future time. This case I did

## TABLE OF TWENTY-EIGHT CASES OF OVARIOTOMY.

| Total Number. | Name and Residence of Previous Medical Attendant. | Age. | Condition. | No. of Children. | Previous Tappings. | Place of Operation. | Date of Operation. | Adhesions. | Ovary Diseased. | Weight of Tumor. | Length of Incision. | Drainage. | Result. | Remarks. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 133 | Dr. W. Culpeper, Philadelphia. | 38 | S. | ... | ... | Univers. Hosp. | Jan. 10 | Universal. | R.<br>L. | 3 lbs.<br>2 " | Short. | None. | Recovery. | Very difficult operation. |
| 134 | Dr. J. D. Strawbridge, Danville, Pa. | 31 | S. | ... | ... | Private Hosp. | Jan. 27 | Universal. | L.<br>R. | 3 " | " | " | " | Dermoid cyst; very difficult operation. |
| 135 | Dr. J. G. Seyfert, Pine Grove, Pa. | 19 | S. | ... | ... | " | Feb. 1 | Universal. | ? | 40 " | Long. | Tube. | " | Extremely difficult operation; bladder torn. |
| 136 | Dr. Bryon Winslow, Curwensville, Pa. | 26 | S. | ... | ... | Univers. Hosp. | Feb. 7 | Intestinal, parietal, and omental. | L.<br>R. | 20 " | Short. | None. | " | Papillary cysts; one had burst. |
| 137 | Dr. E. L. Welling, Pennington, N. J. | 33 | S. | ... | ... | Private Hosp. | Mar. 15 | None. | L | 22 " | " | " | " | |
| 138 | Dr. C. W. Richardson, Philadelphia. | 33 | M. | 2 | ... | Univers. Hosp. | Mar. 29 | None. | R. | 20 " | " | " | " | Papillary cyst; had burst. |
| 139 | Dr. S. H. Gump, Bedford, Pa. | 40 | S. | ... | ... | Home. | Apr. 4 | None. | R.<br>L. | 43 " | " | " | Death. | Parovarian cyst; easy operation. |
| 140 | Dr. R. B. Fishburne, Steel's Tavern, Va. | 31 | S. | ... | ... | Private Hosp. | Apr. 12 | Uterine pelvic. | L.<br>R. | 10 " | Long. | " | Recovery. | Papillary cysts; one had burst. |
| 141 | Dr. A. N. Wakefield, Johnstown, Pa. | 50 | M. | 8 | ... | " | Apr. 12 | Universal. | L.<br>R. | 5 " | Short. | " | " | Papillary cysts. |
| 142 | Dr. W. Goodell, Philadelphia. | 46 | M. | 2 | 2 | Home. | Apr. 16 | Intestinal and parietal. | L. | 30 " | " | " | " | Right ovary removed four years before. |
| 143 | Dr. W. G. Porter, Philadelphia. | 34 | S. | ... | ... | " | Apr. 26 | Parietal and omental. | L.<br>R. | 20 " | Long. | " | " | |
| 144 | Dr. H. A. Weed, Jordan, N. Y. | 39 | M. | 2 | ... | " | May 9 | Pelvic and br'd ligam'nt. | L.<br>R. | 2 " | Short | " | " | |
| 145 | Dr. W. L. Williams, Ridgway, Pa. | 20 | S. | ... | ... | Private Hosp. | May 11 | Pelvic. | R.<br>L. | 1 "<br>1 " | " | " | " | Parovarian cyst on right side. |
| 146 | Dr. D. Hetrick, Alum Bank, Pa. | 24 | S. | ... | ... | " | May 14 | Br'd lig. and parietal. | L.<br>R. | 15 " | Long. | " | " | Semisolid cysts of both ovaries. |
| 147 | Dr. C. W. Bachman, Reading, Pa. | 35 | M. | 4 | 1 | Univers. Hosp. | May 28 | Omental and parietal. | R. | 40 " | " | " | " | |
| 148 | Dr. J. A. Miller, Hopewell, N. J. | 29 | M. | 2 | 2 | " | May 31 | Intestinal, omental. | L.<br>R. | 35 " | Short. | " | " | |
| 149 | Dr. B. N. Detwiler, Williamsport, Pa. | 58 | M. | 4 | ... | Home. | June 13 | Intestinal and uterine. | L.<br>R. | 10 "<br>15 " | " | " | " | Racemose cysts; supposed to be malignant. |
| 150 | Dr. W. Goodell, Philadelphia. | 39 | S. | ... | ... | Private Hosp. | June 14 | Br'd ligam't and uterine. | R.<br>L. | 20 " | " | " | " | |
| 151 | Dr. J. Y. Shearer, Sinking Spring, Pa. | 53 | M. | 1 | ... | " | Sept. 10 | Intestinal, omental and parietal. | L. | 40 " | " | " | " | |
| 152 | Dr. Willard Springer, Wilmington, Del. | 25 | M. | ... | ... | " | Sept. 17 | None. | L. | 50 " | " | " | " | Parovarian cyst. |
| 153 | Dr. A. Shank, Clear Spring, Md. | 45 | M. | 5 | 9 | " | Oct. 11 | Parietal, intestinal, and omental. | R. | 75 " | Long. | Tube. | " | Over 30 ligatures needed. |
| 254 | Dr. N. F. Livingood, Womelsdorf, Pa. | 33 | M. | 1 | 3 | " | Oct. 11 | " " " | L. | 55 " | Short. | None. | " | Many ligatures needed. |
| 155 | Dr. H. McKenean, Washington, Pa. | 38 | M. | 6 | ... | " | Oct. 25 | None. | L.<br>R. | 20 " | " | " | " | Parovarian cyst on left side. |
| 156 | Dr. H. U. Umstad, Yerkes, Pa. | 54 | M. | 3 | ... | " | Oct. 25 | Parietal an omental. | L.<br>R. | 30 " | Long. | " | Death. | Fibroid of womb; died on 21st day from malarial fever. |
| 157 | Dr. Thompson, Milwaukee, Wis. | 52 | M. | 2 | ... | " | Nov. | None. | R.<br>L. | 15 " | Short. | " | Recovery. | |
| 158 | Dr. H. Clay Meredith, Pughtown, Pa. | 46 | M. | 2 | ... | " | Nov. 22 | Parietal. | L. | 10 " | Long. | " | " | |
| 159 | Dr. J. F. Alexander, Centre Hall, Pa. | 47 | M. | 4 | ... | Home. | Dec. 5 | Parietal, omental, intestinal. | L.<br>R. | 13 "<br>2 " | " | " | " | Solid tumors of each ovary, supposed to be malignant; large fibroid of the womb. |
| 160 | Dr. Rowland, Media, Pa. | 50 | W. | 4 | ... | Private Hosp. | Dec. 11 | None. | R. | 30 " | Short. | " | " | Stalk so short that uterine cornu had to be transfixed and ligated. |

not expect to get well; indeed, I thought that the shock would destroy life in a few hours. A very large number of ligatures were needed in Cases 133, 134, 135, 146, 151, 153, and 156. No. 156 was the only one of this group that died, not from septicæmia, but from malaria, as I believe. Over thirty ligatures were used in Case 153. The adhesions were parietal, intestinal, and omental; she had been tapped nine times, the tumor weighed seventy-five pounds, and a drainage tube was put in; yet she recovered without a bad symptom. The only way that I can explain why the proportion of cases with adhesions is so much larger than in those reported by European operators, is, that physicians in this country are not yet educated up to the idea of an early performance of the radical operation, and that the women themselves not only put off the evil day, but they often insist upon being tapped—an operation which is very likely to be followed by adhesions.

In the successful case of hysterectomy, a tumor, weighing eight pounds, was removed, together with a portion of the enlarged womb. As the uterine cavity was not invaded, the pedicle, which was as large as one's wrist, was transfixed, tied, and dropped. No bad symptoms followed. This operation was performed at the hospital of the University of Pennsylvania.

The four exploratory incisions were made with the view of removing the ovaries, on account of fibroid tumors of the womb. But in each case the tumor was so fixed by adhesions that the ovaries could not be reached, and the patients had previously stipulated that in that case the uterine growth was not to be removed. Two were performed at my private hospital, and two at the University.

In the case of laparotomy for pelvic abscess, a patient of Dr. W. Sinkler's, pus had been escaping for three years into the bladder and rectum, and the lady was bedridden. As the abscess was always kept empty by these two outlets, fluctuation could not be detected in the plainly thickened, broad ligament. I therefore decided to open the abdominal cavity and the abscess, then stitch its walls to the wound in the belly, and put in a drainage tube. When, however, the abdominal cavity was exposed, the pyogenic body was found to be not larger than a small apple, and its walls therefore could not be raised up and stitched to the edges of the incision. Guided by the hand in the peritoneal cavity, I was able to penetrate, *per vaginam*, the centre of the abscess with the closed blades of a sharply pointed pair of scissors. This opening was now enlarged by my slender uterine dilator, and a flexible catheter put in. While the patient has not been wholly cured by the operation, she has been vastly benefited.

The consideration of my nine cases of oöphorectomy will be reserved for another paper. I will merely say here that four of them were performed for ovaralgia, three for bleeding fibroids, one for epilepsy, and one for a menorrhagia, which had resisted every known therapeutic measure.

In conclusion, let me say, with regard to the technique of the operation for laparotomy, that I use the ordinary knot and the Staffordshire knot indifferently; that I now, in the long incisions, cut directly through the umbilicus, instead of going around it; that I include the recti muscles, and all the tissues in the abdominal sutures; and that, while not a very firm believer in the spray part of antiseptic surgery, I used the atomizer in every case but No. 159, and that this patient did as well without it as most do with it.

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## THE DISINFECTANT VALUE OF STANNOUS CHLORIDE ($SnCl_2$).

### EXPERIMENTS CONDUCTED IN THE BIOLOGICAL LABORATORY OF THE JOHNS HOPKINS UNIVERSITY.

BY A. C. ABBOTT, M.D.,
OF BALTIMORE, MD.

IN view of the objections to the use of mercuric chloride as a disinfectant and an antiseptic, it has been our aim in some recent studies to find a relatively harmless substitute for it.

Not only is mercuric chloride a dangerous poison when taken internally, but it has also been shown to exert a very detrimental action upon lead pipes when brought in contact with them, as is necessary in the disinfection of water-closets. Moreover, several reports have lately come to our notice of its toxic effects having been produced even when used in the very dilute solutions employed in antiseptic surgery and in obstetric practice.

It was hardly with the hope of having found a substitute devoid of these objections, and at the same time possessing an equal potency as a germicide, that Dr. J. R. Duggan, of the Johns Hopkins University, recently suggested to me the advisability of making some experiments upon stannous chloride ($SnCl_2$), with a view of determining its influence upon living organisms. The analogy of its chemical composition to that of mercuric chloride, its lack of poisonous properties, its non-corroding action on lead pipes, and the cheapness of its preparation, at once recommended it as being possibly the substance for which we were seeking. Accordingly, a series of experiments were begun.

A solution of the salt of known strength having been made, its germicide value was determined after the same method as has been adopted in all of our work on commercial and other disinfectants. The salt under consideration came far short in its germicide value of mercuric chloride—far short, in fact, of what we had expected—yet the evidence of its possessing a higher potency in this capacity than many other substances commonly employed for the same purpose, together with the points above enumerated in its favor, we think sufficient to justify us in recommending it for general use

Our experiments show that stannous chloride, when in contact with spores in decomposing organic matter, kills them at 1 per cent. after an exposure of two hours, and that it failed to disinfect the mass when present in 0.8 per cent. after the same length of time. Comparing these figures with those indicating the potency of zinc chloride, copper sulphate, zinc sulphate, and ferric sulphate, which are the salts most generally used for the purpose of disinfection, we find the first of these, zinc chloride, to be active in 5 per cent., and inactive when present in 2.5

per cent.; while the last three—copper sulphate, zinc sulphate, and ferric sulphate—we find to be inefficient respectively in 20 per cent., 40 per cent., and in saturation. These facts, taken in conjunction with the moderate cost of stannous chloride, and its entire inactivity on lead pipes, are sufficient to indicate a large field of utility for this compound. Moreover, when taken internally, it has no more deleterious effects than the salts of copper, zinc, or iron.

We might here state that in making a solution of stannous chloride intended for permanent preservation, it is advisable to add an equal weight of ammonium chloride; this prevents the formation of the insoluble oxychloride of tin, which would otherwise be deposited upon standing.

At the suggestion of Dr. Duggan, similar experiments were instituted with the stannate of potassium; but our report in this regard is less favorable than upon the stannous chloride. This substance having shown itself to be inefficient as a germicide, in a 3 per cent. solution, we concluded to pursue the investigation no further, as the compound could, under these circumstances, be of no practical value in this capacity, and especially as the expense attending its manufacture is much greater than that of other substances which occupy a higher place in the scale of disinfectants.

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## MEMBRANOUS CROUP; TRACHEOTOMY; RECOVERY.

BY JOHN D. NEET, M.D.,
OF VERSAILLES, KY.

THE following case of tracheotomy for croup is chiefly reported for its statistical bearing.

On the evening of Nov. 13, 1885, I was summoned to see Annie H., æt seven years, suffering with membranous croup. Five days previously (Sunday) she manifested the usual symptoms of acute catarrhal laryngitis. On Tuesday she was quite hoarse, cough dry and stridulous, and respiration labored. During the time she was under the charge of two other physicians, who had faithfully administered the usual treatment for croup. In response to the urgent request of the little patient, I assumed management of the case on Friday evening.

On examination I found the fauces and pharynx very much congested, but free from membranous exudation, nor was there any enlargement of the cervical glands. Pulse 110; temp. 99½°; expectoration scanty; respiration stridulous and difficult. The treatment by mercurials having been ineffectually tried, I prescribed the ammonia and potash preparations, with counter-irritation and flaxseed poultices over the larynx, and impregnated the air of the room with steam from strong lime-water. The dyspnœa and cough grew worse toward morning, and an emetic was administered. This, with the violent coughing, caused the expulsion of a piece of tough membrane five-eighths of an inch long, and one-fourth of an inch wide.

*Nov. 14.*—9 A. M. Pulse 104; temp. 91°; respiration less difficult; treatment continued. 6 P. M. Pulse 110; temp. 99½°. Emetic administered, but symptoms unimproved.

*15th.*—Condition during the night and day unchanged.

*16th.*—9 A. M. Patient worse. Pulse 120; temp. 99½°; respiration more labored and difficult. 8 P. M. Patient unable to lie down. Pulse 130; temp. 100°; beginning cyanosis about the lips: cough constant, dry and stridulous; marked dulness at the base of right lung, and crackling râles throughout both lungs. All treatment having failed, it was now evident that tracheotomy was the only available source of hope. Drs. Skillman and Scott, of Lexington, were called in consultation, and besides concurring in the opinion that tracheotomy was imperative, rendered valuable assistance at the operation.

*17th.*—2 A. M. Pulse 200; physical signs of pulmonary œdema present, countenance of a bluish-ashy hue, and exhaustion pronounced. Chloroform was administered, and I proceeded at once to open the trachea. Hemorrhage was free, but entirely venous. There was no delay on account of the bleeding, but the trachea was opened at once, whereupon the patient coughed and expelled through the opening a piece of false membrane one inch and a half long, and half an inch wide. The moment the tube was inserted the hemorrhage ceased. In fifteen minutes thereafter the pulse had fallen to 150, respiration 40, and easy. In thirty minutes the pulse was 138, and the patient removed to bed.

8.30 A. M. Patient had a paroxysm of coughing, and the tube became obstructed with false membrane. The inner tube being removed, with Trousseau's tracheal forceps I extricated a large mass, in pieces, of false membrane, and the patient sank into a restful sleep.

11 A. M. Patient has taken four ounces of milk. Pulse 128; temp. 99⅘°; respiration 30.

6 P. M. During the day with each paroxysm of coughing, small pieces of membrane were expelled through the tube. The inner tube required to be removed every hour in consequence of occlusion by tenacious mucus and small particles of false membrane which could not be removed with a feather. Pulse 120; temp. 99½°; respiration 28; crackling râles less abundant, and dulness at base of right lung disappearing.

7 P. M. Another paroxysm of coughing, and tube choked with false membrane. With Trousseau's forceps a still larger mass of membrane was removed.

*18th.*—7 A. M. In consequence of the cough and occlusion of the inner tube, requiring its removal every half hour, the patient slept very little last night. Pulse 116; temp. normal; respiration 28; dulness at base of right lung disappeared, yet there are a few crackling râles present. Patient drank two glasses of milk during the night.

7 P. M. Patient fretful all day. Pulse 125; temp. 100°; respiration 35; cough almost constant, secretion through tube less, dulness with crepitation in lower lobe of right lung.

8 P. M. Another violent paroxysm of coughing, in which death seemed imminent from suffocation. A piece of false membrane two inches long, and half an inch wide, removed through tube. Administered

twenty grains of calomel. Patient passed into a quiet sleep.

*19th.*—9 A. M. Patient had a more comfortable night; cough not so troublesome. Calomel acted freely. Pulse 115; temp. 98⅘°; respiration 26. The dulness with crepitation in the right lung has disappeared.

6 P. M. Pulse 112; temp. normal, respiration 26. Secretion through tube now thick and yellow, showing the detritus of the disintegrating membrane. Ten grains of calomel administered.

*20th.*—9 A. M. Pulse 108; temp. normal; respiration 25, and lungs clear throughout. Patient takes nourishment freely.

6 P. M. Pulse 103; respiration 26. Ten grains of calomel

*21st.*—9 A. M. Patient slept well last night. Pulse 100; respiration 24.

6 P. M. Condition the same.

*22d.*—Condition about the same throughout the day.

*23d.*—9 A. M. Pulse 96; temp. normal; respiration 24. Inner tube closed by a small cork, and as the patient breathes well *per vias naturales* it is allowed to remain.

*24th.*—Patient having suffered no distress with tube corked, the tube is now removed, and over the wound is placed a bandage of cheese-cloth attached to oil-silk.

5.30 P. M. Patient breathes partially through larynx, and tracheal opening half closed.

*25th.*—Wound closed.

*26th.*—Patient up and dressed, aphonia subsiding, and wound healing nicely.

*Dec. 2.*—Wound entirely healed, and patient discharged.

The after-treatment of the case can be summarized in a few words. The temperature of the room was constantly maintained at 80°, and the traditional steam kettle dispensed with as useless. Repeated doses of calomel were administered for its alleged effect upon membranous exudations. While physical examination of the lungs pointed to the probable early accession of pneumonia, none of the usual remedies were resorted to for the relief of this condition; for it was regarded as the effect of mechanical obstruction in the larynx preventing free access of air to the lungs, and upon removal of the cause we expected the effect to cease without recourse to therapeutic measures.

We find, from the clinical history, that the dulness of the lung had disappeared twenty-nine hours after the operation, but in *twelve* hours later, there was a reappearance of the physical signs of pneumonia. During the twelve hours preceding the accession of the pulmonary symptoms the patient had been coughing almost constantly in the effort to expel a foreign substance (false membrane). This being removed, in twelve hours more the physical signs of pneumonia had again disappeared. From the facts it seems proper to conclude that the detached membrane within the trachea, acting mechanically and exciting irritation, stood in a causative relation to the development of the pulmonary symptoms; for after it was extricated the lung soon resumed its normal condition.

It is conceded on all sides that the success of tracheotomy for croup depends preëminently upon the close and unremitting attention of the surgeon, with scrupulous care in the various measures comprised under *good nursing*, and to which his personal attention should be given. For, amid the perplexing emergencies which are liable to arise at any moment from detached membrane or occlusion of the tube, it is a hazardous experiment to entrust the necessity for prompt and judicious action to an inexperienced hand. The span of a few seconds may prove the measure of our opportunity, so that, with a concientious regard for the best interests of the young life entrusted to his professional skill and keeping, and imbued with an earnest desire to lend his efforts toward elevating the operation from that opprobrium into which its high mortality-rate has placed it, it devolves upon the surgeon as his paramount duty to give that personal attention—even to the total neglect of other business—which the direful emergencies of these cases necessitate. The human interest demands this—the scientific interest calls loudly for it; and he, who cannot thus briefly sacrifice his outside interests, should not abuse the privilege and power which his high vocation reposes in him, by imperfectly doing that which ought to be done well.

## MEDICAL PROGRESS.

ALBUMINURIA OF PREGNANCY AND ECLAMPSIA.—DOLÉRIS and POUEY have studied in collaboration the relation of microörganisms to the albuminuria of pregnancy, and have arrived at the following conclusions:

1. Microörganisms are to be found in the bladder in these cases independently of albuminuria, and apparently unconnected with any kidney trouble.

2. Albuminuria is present in about five per cent. of pregnant women, and in such urine microörganisms, especially streptococci, are always present.

3. The blood of such women usually, if not always, contains bacteria, the presence of which is demonstrable by culture.

4. In the cases of albuminuria of pregnancy with eclampsia, microörganisms were present in both blood and urine, and apparently had a direct quantitative relation to the severity of the convulsions.—*Centralb. f. klin. Med.*, Dec. 26, 1885.

DILATATION OF THE UTERUS.—VULLIET has made a communication to the Medical Society of Geneva regarding a new method of permanently dilating the uterus. This operation, which he has performed successfully for over a year, permits the inspection and study of the uterine cavity even during menstruation, and is so complete that casts and photographs of the interior of the uterus have been taken.

The female is placed in an exaggerated genupectoral position and the dilatation is begun by the successive introduction of urethral sounds. This is succeeded by the introduction of small tampons of iodoform wadding, the number of which is gradually increased, and which are permitted to remain in place for forty-eight hours. Occasionally a piece of laminaria is introduced, never

longer than twenty-four hours, and it is immediately replaced by iodoform cotton. At the end of a period varying from ten to twenty-five days complete dilatation is obtained.

In the thirteen cases in which Vulliet has performed this operation no ill result, apart from occasional temporary uterine colic, has ensued. The clinical indications for this procedure are evident, inasmuch as by its means the direct treatment of uterine neoplasms is rendered practicable.—*Revue de Thérap.*, Jan. 1, 1886.

THE ALLEGED FRAGILITY OF THE BONES OF GENERAL PARALYTICS.—DR. T. CHRISTIAN, Physician to the National Asylum of Charenton, states that as a result of the study of the available statistics, and of personal observation of about 250 general paralytics, that general paralysis does not in itself entail any increased fragility of the bones, and that when osteomalacia is present in these cases it is a purely accidental phenomenon the result of other causes.—*Journal of Mental Science*, Jan. 1886.

PASSAGE OF PATHOGENIC MICROBES FROM MOTHER TO FŒTUS.—The continued observations of KOUBASSOFF, reported in *Comptes Rendus*, ci., have given the following results:

1. The anthrax bacilli always pass to the fœtus.

2. The longer the period between the inoculation and death of the mother, the more numerous the bacilli found in the fœtus.

3. More bacilli of the virulent than of the attenuated anthrax virus thus pass over.

4. Maternal inoculation with very strong anthrax vaccine nearly always produces the death of the fœtus.

5. The inoculation with virulent lymph of a pregnant animal which had previously been vaccinated with the attenuated virus is nearly always fatal to the fœtus, and offspring which have survived such maternal inoculation themselves succumb to similar inoculation after birth. In other words, the fœtus is never sufficiently vaccinated through the mother.—*Centralb. f. d. med. Wiss.*, Jan. 9, 1886.

ELIMINATION OF ARSENIC BY THE MAMMARY GLAND.—BROUARDEL records a recent case of poisoning in which a wetnurse was the victim and in which the infant at the breast also succumbed. From the body of the child five milligrammes of arsenious acid were obtained. An experimental verification of these results was obtained by Pouchet in the examination of the milk of some nurses in the Hôpital Saint-Louis, who were under arsenical treatment with Fowler's solution. One of them, who received during one week eight milligrammes of arsenic daily, yielded milk which was shown on chemical analysis to contain in each 100 grammes one milligramme of arsenic.—*L'Union Médicale*, Jan. 3, 1886.

ROUTE PURSUED BY INOCULATED TUBERCULOSIS.—At the session of the Academie des Sciences of December 28, 1885, M. E. COLIN presented an account of his experiments on the effects of the inoculation of tubercle in various domestic animals.

He finds that before becoming a visceral affection, tuberculosis constantly attacks the lymphatic system. Instead of being generalized, the first lesion is one of that part of the system in which the foreign matter in question is absorbed, and that such lymphatic tuberculization progresses regularly until the tuberculous matter reaches the general circulation.—*Progrès Médical*, Jan. 9, 1886.

CONDITIONS UNDER WHICH THE BLOOD COAGULATES IN LIVING VESSELS.—As an addendum to his previous communications on sanguine concretions, HAYEM writes as follows to *L'Union Médicale* of Jan. 7, 1886:

In order to demonstrate that stagnant blood may become coagulable while still in contact with the living vessels if the plasma become altered, the jugular of a dog is exposed and ligated in two places in such wise that the portion thus included shall be distended with blood. Into the saphenous vein are then injected a few cubic centimetres of canine serum, and immediately thereafter the other jugular is ligated in a manner similar to the first. At the end of from half an hour to an hour, upon opening the two jugulars, it is found that the blood included between the first two ligatures is fluid, while that similarly treated on the other side has formed a complete clot.

CHLOROFORM WATER AS A HÆMOSTATIC.—SPAAK, of Brussels, recommends the use of a two per cent. aqueous solution of chloroform as a hæmostatic, especially in operations in oral surgery. Its action is very rapid and simple. Washing out of the mouth is said to be sufficient to arrest bleeding even of the large vessels. *Medicinisch-Chirurgisches Centralb.*, Jan. 1, 1886.

RELATION OF HEPATIC STIMULANTS TO THE FORMATION OF UREA.—In an elaborate article in the *Journal of Anatomy and Physiology* for January, 1886, DR. D. NOEL-PATTON thus summarizes the results of his experiments on the relationship of urea formation to bile secretion:

1. *Salicylate of Soda.*—(A) *In man.* In dose of 0.106 grm. per kilo, salicylate of soda causes no change in the amount of water passed, a slight increase in the urea and a very marked diminution in the uric acid excreted. This last change is by far the most manifest; in one experiment the diminution was as great as 64 per cent.

(B) *In dogs.* In doses of from 0.45 grm. to 0.6 grm. per kilo, salicylate of soda caused a marked diminution in the water passed, a rise in the urea, and a very great diminution in the uric acid excreted.

2. *Benzoate of Soda*, in doses of from 0.51 to 0.58 grm. per kilo, causes little or no change in the amount of water. The urea is greatly increased and the uric acid is diminished, though not so markedly as with salicylate of soda.

3. *Colchicum*, in doses of 0.02 to 0.037 grm. per kilo of the acetic extract (B.P.) causes a very marked increase in the urea and uric acid. When the doses are small the water is also increased, but with large doses the water secreted may actually fall, while neither the urea nor the uric acid are so markedly increased as with smaller doses.

4. *Perchloride of Mercury*, in doses of from 0.0015 to 0.0075 grm. per kilo, causes an increase in the excretion of water, urea, and uric acid.

5. *Euonymin*, in doses of from 0.04 to 0.10 grm. per kilo, causes a slight increase in the water excreted, and a very marked increase in the urea and uric acid. In larger doses, 0.16 grm. per kilo, it causes purging, with no diminution in the water passed by the kidneys, but without the marked rise in the urea excreted.

We thus see that in dogs, in a condition of nitrogenous balance, stimulation of the flow of bile by means of these drugs is accompanied by an increased urea production.

That an increased production and not merely an increased excretion of urea occurred, is clearly shown by the fact that, after the administration of the drug was stopped, the amount of urea merely returned to the normal and did not manifest a fall corresponding to the initial rise.

I would, therefore, conclude that the formation of urea in the liver bears a very direct relationship to the secretion of bile by that organ. On the nature of this relationship I have not touched in the present paper, but at an early date I hope to give the results of a series of experiments upon this subject.

To the physician the results of these observations must have considerable interest, especially of those which, dealing with the influence of salicylates and benzoates upon the uric acid excretion, afford a key to their mode of action in gout. No less interesting is the demonstration of the fact that colchicum increases and does not diminish the production of uric acid.

A RECENT STUDY OF NUX VOMICA.—At a late meeting of the Philadelphia County Medical Society, DR. JOHN H. MUSSER presented a paper "On the Influence of Age on the Dosage of Nux Vomica, with some Remarks on its Therapeutics," in which he says:

Going over the notes of some fifty cases, I find that at from 15 to 40 years of age 45 drops or more of the tincture were almost invariably well borne. After 40 years it was the exception to be able to increase the dose over 35 drops without causing disagreeable symptoms.

One of the patients, aged 24, took 200 drops three times daily with most decided benefit. To another, aged 16, 125 drops were exhibited without experiencing any bad effects. On the other hand, a male, aged 60, could take but 20 drops, and not one over 50 could get beyond 35. Patients aged 16, 24, 28, 35, and 40, took 40, 55, 30, 45, and 45 drops respectively before any therapeutic benefit could be seen.

Two effects of large doses of the drug were observed, that, under certain circumstances, would be disadvantageous,—the production of diarrhœa and of frequent seminal emissions. Small doses of laudanum would readily control the former, although it is rare that the case would demand such very large doses. The latter symptom could not well be remedied.

In mental and physical depression due to prolonged excitement this drug is of value. One of my students took from 600 to 800 drops of the tincture daily, and thereby successfully tided himself over a period of great strain. In fact, he studied harder and kept later hours than at any other examination period, and with less detriment to his health. He is myopic and astigmatic, and this was the first time he came out of his studies without suffering from eye-strain. The doctor writes me that he has used the drug since, in practice, under similar circumstances. For instance, he helped along well a young society girl, who was unusually busy with engagements, until the rush was over. These uses of the drug are as dangerous, however, as those of any stimulant, and it should be given only on extraordinary occasions for the purpose indicated. Its use as above serves to show its power as a nerve stimulant.

It has recently been the custom of students of medicine to take caffeine to keep them awake for study. My observation of the students who had taken one of these drugs was favorable to the use of nux vomica. The ones who took it came off with much better health and less nervousness than the caffeine-eaters.

The following are some of the conclusions which may be drawn from the above statements:

1. The effects of nux vomica are in inverse proportion to the age of the patient; the susceptibility increasing with the age.

2. The usual doses of the tincture indicated in the text-books are inadequate for many practical purposes, and do not represent the usual dose of strychnine.

3. It is a powerful and rather transient stimulant.

4. The best therapeutical effects can be secured in many cases only by pushing the drug almost to the physiological dose.

5. The system soon becomes accustomed to its use, and the dose must be increased.

6. The good effects in dyspepsia are largely due to its power to heighten reflex excitability.—*Therapeutic Gazette*, Jan. 15, 1886.

RELATION OF PRECOCIOUS AND TARDY MENSTRUATION TO THE DEVELOPMENT OF THE FŒTUS AT TERM.—NEGRI, after a study of the data of some twelve hundred labors, concludes that the maximum development (in point of size and weight) of the fœtus at term is found in primiparæ who began to menstruate between the ages of thirteen and seventeen years. Less development of the fœtus is found in primiparæ who menstruated after seventeen years, and the minimum, both in size and weight, in the offspring of primiparæ who menstruated before attaining the age of thirteen years.—*Gaz. Méd. de Paris*, Dec. 19.

TESTS FOR LEAD IN SOLUTION.—Cases are not rare where the presence of lead in water has been exceedingly harmful. When suspected the following will be found efficacious: A very delicate test for lead is by the direct addition of a small quantity of hydrosulphuric acid. This is applicable where a solution is to be tested for lead only. The hydrosulphuric acid produces a black precipitate, if lead is present in large quantities; if in small quantities only, a brownish tint to a dark coloration. This test is of special use in detecting lead in waters used in the manufacture of beverages, which it frequently contaminates, because of the abundant use of lead in the form of pipes and solder, and the presence of which in any proportions renders the water deleterious. Another method for detecting lead that has been dissolved by the corrosive action of water is by the addition of a drop or more of an aqueous solution of cochineal, and if lead is present, even in very minute proportions, a fine violet coloration will be produced. Cochineal will give this test in any solution of lead, provided it is strictly neutral in reaction, but fails in an acid solution.—*Pharmaceutical Record*, Jan. 15, 1886.

# THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

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SATURDAY, JANUARY 30, 1886.


## IS AMYLOID DEGENERATION CURABLE?

As is well known, the duration of life in amyloid degeneration of organs is very variable, but, once established, an actual cure is regarded as impossible. When suspected, and recovery occurs, a reasonable doubt may be entertained as to the correctness of the diagnosis.

The possibility of cure has recently been urged by LITTEN, at the Berlin Medical Society, partly on clinical, partly on experimental grounds. Recovery has been seen in cases in which the visceral enlargements and the state of the urine, in association with syphilis or bone disease, left little doubt as to the actual condition which had existed, though in these instances, of course, a positive diagnosis could not be reached. Then, again, there were cases in which the clinical features of the disease were well marked, and the organs after death presented all the characters of the amyloid change, save in the absence of the special reaction to iodine and methyl-violet. Such instances seem to point to differences and changes in the amyloid substance, which may ultimately be detected by other reagents than those at our command at present. He referred to four such instances, which had been under the care of Friedreich. To test the possibility of the absorption of amyloid matter, he introduced small portions of amyloid liver into the peritoneal cavity of guinea-pigs, and found, after some months, that the tissue had so far changed that the reactions were no longer characteristic. It is possible that such gradual changes may also take place in the human body when the symptoms of amyloid degeneration disappear.

In the discussion which followed, VIRCHOW criticised these views very strongly and held that there are no grounds for supposing that, when once present, the amyloid matter can be removed. The degeneration is in reality a substitution of this material for the protoplasm of the affected tissues, and the elements involved cease to have organic structure. We cannot imagine its absorption without actual defects or spaces being left. A small vessel in a state of amyloid degeneration was compared to a tube of ice and the absorption of the amyloid would be like the melting of the tube—nothing would be left of the one or of the other.

Certainly the evidence is not yet forthcoming to show that this serious form of degeneration is ever curable, but we do meet with cases in which, under treatment, the condition becomes much ameliorated and the organs affected reduced in size. In syphilitic patients particularly, the disease may exist for years and present many variations in its progress. While it is possible that in some of these cases the process may be arrested, the reduction in the volume of the liver and spleen, which is regarded as the chief evidence in favor of the absorption of the amyloid matter, may depend on a change in elements other than those affected with the degeneration.

## CENTRAL RUPTURE OF THE PERINEUM.

CHARPENTIER has, in the November and December numbers of the *Archives de Tocologie*, an interesting contribution upon central rupture of the perineum, and to some of the points presented by him we wish to call attention.

We have been especially impressed with the decided endorsement which this distinguished obstetric teacher gives to the views of Fabbri, published in 1857, and since upheld by Sabatier, by Boissard, and by others, that the bony pelvis, to which soft parts are added, continuing its canal, and forming its floor so as to constitute the obstetric pelvis, is actually a cylinder. The coccyx is at the fundus of this cylinder, and the vulva is an opening upon its anterior wall; according to Sabatier, "the fœtus in traversing this cylinder describes, by the movement of its centre, a line of progression, subdivided into a line of engagement, of descent, and of disengagement. The line of descent, or practical axis, or directing line, is a straight line as is the axis of the anatomical pelvis." Nevertheless, he holds that this line is not confounded with the anatomical axis of the pelvis, for it is not contained in any position whatever in the antero-posterior median plane, but varies according to the position, and according to the variety of the position. "There is not, then, a unity of the practical axis, but a plurality, because this line depends not on the form of the basin, but upon the situation of the presentation in this or in that part of the pelvis, as then, from a dynamic point of view, it necessarily occupies one or the other side of vacant spaces.

"For the accoucheur the normal pelvis ought to be theoretically considered as the union of two cylinders with an elliptic section, united together at the anterior part, and encroaching more and more upon each other as they are considered at the lowest part. They are divided at the fundus by a rather abrupt bend into two portions, one vertical, which corresponds to the engagement and descent, the other horizontal, which is that of disengagement."

It is obvious, from this presentation, that the head descends in a straight line to the perineum, and then turns at nearly a right angle to escape from the vulval orifice. But if the perineum, either from structure or form, does not furnish suitable resistance in force or direction, the disengagement cannot occur normally; the driving, the propulsive force of uterine and abdominal contractions sends the head directly down upon the pelvic floor, and the resistance of that floor ought to direct it in the axis of the obstetric outlet, but this directing power fails either from want of strength in the perineal tissues, or from the vulval orifice being high up, or, in other words, from the great length and obliquity of the perineum. Under such circumstances the fœtal part lodged upon the pelvic floor there stops, and the stretched perineum is more and more thinned, has less power to turn that part toward the vulval opening, and offers also less resistance to the driving force, and there gives way.

Charpentier attributes great importance in the production of this lesion to exaggerated intensity and irregularity of uterine contraction. He states that in the observations which he has collected, it is always, or almost always, under the influence of an abrupt, energetic contraction of the uterus, aided by a violent and untimely effort of the patient that the rent is produced, and this occurs notwithstanding all attention and precaution which the accoucheur takes to prevent the accident.

In case central rupture of the perineum is recognized in labor, the accoucheur should at once divide the bridge which separates this from the vulval opening, thus permitting the ready exit of the child, and preventing the rent from extending further back to, or through the anus. After delivery, the rent is to be sewed with catgut sutures by the method of Bröse, which was described some months ago in THE NEWS. In case the accoucheur first sees the patient some hours after delivery, catgut sutures are to be used, but the bridge is not to be divided unless union fails; in case of such failure, the bridge should be divided, and the sutures reapplied.

## THE ISOLATION OF THE TEMPERATURE SENSE.

THE assumption of the existence of a nervous mechanism for the transmission of thermic stimuli, as contradistinguished from general tactile sensation, cannot as yet be regarded as proven, although many clinical observations apparently speak in its favor. Several cases are on record in which, as a sequence of some more or less pronounced lesion of the central nervous system, there existed cutaneous hyperæsthesia in regard to variations of temperature, while, at the same time, no correlated exaltation of general sensibility was appreciable. Instances have also been noted in which, in a given cutaneous area, complete absence of tactile sensibility was coincident with the retention of partial thermic sensibility.

Such facts do not constitute conclusive evidence. They undoubtedly suggest the existence of distinct channels for the transmission of stimuli, but they also suggest the possibility that in certain diseased conditions the nerves involved may be better able to transmit an impulse of thermic origin than one derived from pressure, or even that a diseased sensory centre may be more receptive to one stimulus than to others.

In a most ingenious series of experiments which were first described in THE MEDICAL NEWS of May 30, 1885, and which have since been widely quoted and accepted, DR. MACKENZIE, of Baltimore, succeeded in demonstrating an apparent isolation of the temperature sense in the mucous membrane of the upper air-passages. Struck by the observations of DRS. MURDOCH and DONALDSON, who found that in cocaine anæsthesia of the cornea and conjunctiva the power of distinguishing heat and cold was retained by these parts, Mackenzie applied the same method of investigation to the mucous membrane of the oropharyngeal cavities and nasal passages. Six persons, hospital patients, were taken for the experiments. Having thoroughly anæsthetized the mucous surfaces of the soft palate, uvula, and nasal passages with a four per cent. solution of cocaine, a probe, which had been previously immersed in a mixture of ice and salt, was made to impinge upon the parts rendered insensible to contact and pain. A distinct sensation of cold was complained of in each instance. The opposite extremity of the same probe was then heated over the burner of a lamp used for laryngoscopic purposes, and in its heated condition carried over the anæsthetized areas. While absolutely no pain was felt by any of those experimented upon, there was a marked unanimity of the answers, given voluntarily, in regard to the sensation of heat. In three of the cases an eschar followed the application of the heated probe, and in one an acute pharyngitis developed; yet at the time of application no pain was felt, though the temperature sense remained intact.

At the first glance, the thesis would seem established. Here was undoubted coexistence of tactile anæsthesia with retained, though diminished, sensibility to thermic stimuli. Closer examination, however, reveals an evident and most probable source of

error. Cocaine gives immunity from pain only to that area of mucous surface to which it is applied, and to the parts immediately subjacent to a depth which, while not definitely determined, is certainly not great. Any increment or decrement of heat effected in the superficial insensitive area by the application of hot or cold metal, will produce corresponding changes in temperature, modified only in degree, in those subjacent parts to which the obtunding influence of the cocaine has not extended, with a resultant mild sensation of heat or cold with absence of pain. It is as though one held, for an instant, a live coal in the gloved hand. Here, too, would be the sensation of warmth without pain.

Before we can accept the assumption of structural differentiation for the reception or transmission of different kinds of neural stimuli, one of two things must be shown, either that there exist specific nervous end organs adapted to such purposes, or that there is some point between periphery and centre at which the destruction of nerve fibres shall produce either anæsthesia of a given cutaneous area with retention of temperature sense, or the direct converse of this condition.

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### THE CONGRESS CONTROVERSY AND THE CODE.

WE are in receipt of the following letter from a subscriber to THE NEWS, and, although the questions asked have been fully answered many times in our columns, they are of such importance and still hold such prominence in professional consideration that they demand, at least, a brief reply.

CARTERVILLE, ILL., January 19, 1886.

*To the Editor of* THE MEDICAL NEWS.

DEAR SIR: What is the real trouble with reference to the International Medical Congress? Does it not have reference to the recognition and participation of the New Code men? If that is not the gist of it, what is?

Is their participation essential to the success of the Congress? Why should they be recognized in an International Medical Congress and not in the American Medical Association — how can you or any one else favor the one and not the other? I am sure these questions are interesting to many of my class.

COUNTRY DOCTOR.

The International Medical Congress is an organization which met first at Paris in 1867, and since, at intervals, in the principal capitals of Europe. It has no constitution and no code of ethics, and its membership is open to all regular physicians who choose to inscribe their names on the register. It is a mass meeting of the profession held for scientific intercommunication, and so broad have been the roads to acquiring membership that at both the London and Copenhagen meetings irregular physicians are known to have inscribed their names on the register, and the fact did not in the least disturb the Committee of Organization, or detract from the success of the meetings. The Congress at Copenhagen accepted the invitation to hold its next meeting at Washington, and the Committee of Organization has no right to demand any test for membership but that which the Congress has sanctioned.

It is one of the unwritten rules of the Congress, from which it has never yet departed, that it will not accept an invitation to meet in a country to which the profession of any other country is unwilling to go, or in which the profession itself is not harmonious. At Copenhagen, when the invitation to meet in America was presented, the question was expressly asked by the President, Professor Panum, if the Code controversy would interfere with the profession cordially uniting to receive the Congress, and the acceptance of the invitation was due to the assurance, by the members of the American Committee, that the Code question would not be raised. The dissensions which were aroused at New Orleans were in direct violation of our national honor, whether rightly or wrongly pledged, and they have caused the disaffection of a large proportion of the members of our profession who are from their eminence the best known abroad. This fact, we are reliably informed, will deter many foreigners, including those who have been the most active participants in past Congresses, from crossing the ocean, since one of the strongest incentives to their coming was to meet those who, as the result of the action at New Orleans, will now be conspicuous by their absence. Hence, a united profession is essential to the success of the Congress.

The American Medical Association can exact any qualification, which it sees fit, for membership in its own body, but it has no power to make laws for, or establish qualifications for membership in the International Medical Congress, and this was finally admitted by the new Committee of the Association at its second meeting in New York last autumn, when it receded from its previous position and decided that New Code men might become members of the Congress, but declared that they should not hold office. So long as the New York members of the American Medical Association meet New Coders in consultation, and in their societies, as they do every day, and coöperate with them as officers of their societies, and as fellow professors in their colleges, upon what logical ground can they object to meeting them on an equal footing in an International Medical Congress? The Congress appointed Dr. A. Jacobi and Dr. N. S. Davis to represent America in its Committee on Collective Investigation of Disease, and they are now acting together and issue circulars over their joint signatures. If these two eminent members of the profession, holding different views on the subject of the Code of Ethics, can serve together on a committee, why not any member, and on any committee, or in the Congress, or in any society which is not

governed by the Code of Ethics of the American Medical Association?

The announcement of the preliminary organization of the Congress, made by the original committee, was received by the profession at large with entire satisfaction and with every indication of cordial and harmonious coöperation. The true gist of the trouble subsequently made, was that a few medical politicians were disappointed at not receiving prominent offices, which were given, as in all previous Congresses, to the most eminent contributors to the advancement of medical science in the country in which the Congress was to meet. At the New Orleans meeting of the Association they, therefore, unexpectedly sowed the seeds of discord. They raised the question of Code and of geographical distribution of the offices, because they knew these would prove plausible motives by which to work upon the feelings of the members and to attain their own selfish ends regardless of the consequences to the profession.

Our National Code of Ethics has proved such a valuable means of consolidating and elevating the profession of our country, that by the sole act of giving it to us the American Medical Association has earned our lasting gratitude. The Code is still the corner-stone of medical progress in this country. We believe that the American Medical Association acts wisely in maintaining adherence to it as an essential qualification for membership in its own body, but its right to impose this qualification upon other societies not in affiliation with it, and, above all, upon an International society, cannot, for one moment, be maintained.

For these reasons we believe that the Code controversy has no right to be dragged into the organization of the Congress, even if it did not threaten to imperil the success of the meeting, or to bring the good name of the American profession into disgrace.

## REVIEWS.

A HANDBOOK ON THE DISEASES OF THE NERVOUS SYSTEM. By JAMES ROSS, M.D., F.R.C.P., LL.D., Senior Assistant Physician to the Manchester Royal Infirmary, etc. 8vo. pp. 726, with 184 illustrations. Philadelphia: Lea Brothers & Co., 1885.

DR. ROSS is already well known, not only as an able clinical observer, but as the author of the largest and most comprehensive treatise on diseases of the nervous system in any language. This smaller handbook he has specially prepared for publication in America, and is intended for the use of students and for such practitioners whose time will not allow the perusal of large works.

The work is divided into two parts, a general and special neurology, and a good idea of the scope and arrangement may be gathered from a summary of the contents. After an excellent anatomical and physiological introduction, the general morbid anatomy, the symptomatology and principles of treatment are considered. In the special pathology, a clinical classification has been, so far as possible, adopted, and the diseases arranged as follows: affections of the peripheral nerves; disorders of common sensation and of special sense; spasmodic disorders; atrophic paralyses; the spasmodic paralyses; disorders of motor coördination; vascular diseases of the spinal cord; myelitis; diseases of the spinal membranes; certain functional diseases of the nervous system; shock, concussion, and allied conditions; vascular diseases of the brain; encephalitis; atrophy, hypertrophy, and tumors of the brain; aphasia; diseases of the membranes of the brain; paralysis agitans; multiple sclerosis and chorea; and a final chapter upon general diagnosis and cerebral syphilis.

Not every man could have been as successful in the preparation of a text-book after having written an exhaustive work on the same subject, but in this volume Dr. Ross has succeeded in producing a work which will prove as acceptable to the general profession as his large one is to the special student of neurology.

## SOCIETY PROCEEDINGS.

### NEW YORK SURGICAL SOCIETY.

*Stated Meeting, January 12, 1886.*

THE PRESIDENT, CHARLES MCBURNEY, M.D., IN THE CHAIR.

DR. R. F. WEIR presented a patient, thirty-eight years of age, on whom he had performed

TOTAL EXTIRPATION OF THE TONGUE BY KOCHER'S METHOD.

The case was interesting mainly with respect to the rapidity of the healing process. The operation was performed on the 8th of December, 1885, and the patient left the hospital, with the wound healed, on the 5th of January, 1886. He had had, prior to the operation, symptoms of epithelioma involving the right half of the tongue opposite the last molar teeth, for only eight weeks, and during the latter part of this time he had suffered a great deal of pain. The affected portion, about one inch in diameter, was cocainized, and sections were cut off, which gave a negative result under the microscope. To eliminate the possibility of syphilis, the patient was put upon specific treatment, but without effect. After removal of the tongue, sections made deeper in the tissue revealed true epithelioma.

After the side of the mouth had been opened by the incision under the jaw, and the tongue drawn out and split, with the idea that only one-half of it would need removal, it was found that the disease had passed so nearly to the median line, that it would be hazardous to leave any portion of the organ, and, therefore, the entire tongue was removed at the level of the hyoid bone, and the great advantage of the method of operation was thereby fully demonstrated. The patient was fed, as is customary in these cases, every three hours, with rectal enemata, consisting of beef peptonoids two ounces, and whiskey half an ounce. These were continued for twenty-four hours without additional material. The enemata were discontinued on the sixth day. On the second day he was fed by an œsophageal tube.

On the tenth day he could swallow. The tracheal tube was removed on the eighteenth day. The inframaxillary wound was closed on the twenty-sixth day after the operation.

These cases have become comparatively common; but the ability to talk, which this patient retains, was astonishing to the man himself and to those who had seen him.

An important factor in securing success in these cases is the thorough carrying out of the aseptic treatment, which is facilitated by the employment of what is called the sticky gauze, first brought to our notice by Billroth. Dr. Weir had been able, with the assistance of Mr. Marten, the apothecary of the hospital, to prepare a sticky gauze, which he thought superior to that made after Billroth's formula. Billroth's formula is as follows:

| | |
|---|---|
| Resin . . . . . | 60 gm. |
| Alcohol (95 per cent.) . . . | 1200 " |

Dissolve and add

| | |
|---|---|
| Glycerin . . . . . | 50 " |

Impregnate six metres of absorbent gauze, and when half dry rub in

| | |
|---|---|
| Iodoform . . . . . | 50 gm. |

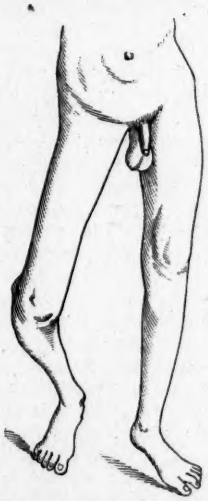
The formula for Dr. Weir's improved gauze is:

| | |
|---|---|
| Resin . . . . . | 10 parts. |
| Castor oil . . . . . | 6 " |
| Alcohol . . . . . | 15 " |
| Iodoform . . . . . | 5 " |

These are mixed together, and applied to the gauze.

### OSTEOTOMY OF A CURVED TIBIA WITH OSTEOCLASIS OF THE OPPOSITE SOUND FEMUR, TO OVERCOME A DEFORMITY.

DR. WEIR presented a second patient, a young man nineteen years of age, who entered the New York Hospital on the 29th of September, for the treatment of a deformity of the right tibia. The deformity was due to a disease of infancy, involving the epiphyses, which resulted in a marked curvature inward of the tibia. The arrest of development was such that the tibia itself measured three inches less than its fellow, but the femora were of the same length. There was a corresponding tilting upward of the opposite side of the pelvis, and his locomotion was very awkward. The fibula was of normal length, and was, in consequence, displaced upward and backward. An osteotomy was done on the 3d of October, through the head of the tibia, and the limb straightened, but the result gave only three-fourths of an inch increase in the length. In order to get a more equal length of the limbs, the femur of the sound side was fractured by means of a Colin's osteoclast applied about the middle of the thigh, and the fracture was made transversely. It was with some difficulty that the ends of the fragments could be crowded past each other, but this was finally accomplished after the use of considerable force, and the limbs now are nearly of the same length, there being not more than one inch difference. No diminution in general height occurred.



The progress of the case had been somewhat delayed by the manipulation necessary to keep the limb with the fractured femur in proper position, but the patient is now able to walk very well with the aid of a cane, and is daily progressing.

DR. POORE suggested that fracture produced with an osteoclast is always at right angles with the long axis of the bone.

DR. WEIR thought it possible so to adjust the osteoclast as to secure an oblique fracture, but it did not occur to him that it might be required in this case until the fracture had been made, and the difficulty in overlapping of the fragments had presented itself.

THE PRESIDENT asked whether an oblique fracture could not be accomplished by subcutaneous perforation of the bone in an oblique line.

DR. WEIR thought it altogether probable that such perforation would influence the direction of the fracture, but that simpler methods would suffice.

THE PRESIDENT remarked that the result was admirable, inasmuch as the extraordinary deformity was very perfectly corrected. Dr. Weir's case reminded him of one which presented the opposite result with regard to the length of the limb. It occurred in a man thirty-nine years of age, who, twenty-one years previously, from some injury to the leg, suffered from apparently a diffuse periostitis, and, in consequence, according to the history, he had eleven inches of the tibia removed. Whether this was precisely correct or not, Dr. McBurney was unable to say, but certainly a very large piece was taken away, judging from the present condition of the limb. The patient had used the limb more or less since, with occasional outbreaks of inflammatory swelling, and the escape of small fragments of dead bone. He came to Dr. McBurney with superficial necrosis of the new bony deposit. The entire bone was very much thickened, nearly double the normal width and thickness, and one inch and a half longer than the tibia upon the opposite side. He had not met with a case which showed such a marked increase in the length of that bone. The fibula also seemed to be enlarged. It was difficult to say with reference to that, because the thickening of the tibia was so great that the two bones made nearly a solid column; it was only at the lower portion of the leg that the outline of the fibula could be made out at all.

DR. L. M. YALE recalled a very singular condition existing in a well-known surgeon, formerly of this city, namely, one tibia fully an inch longer than the other. He also wore one boot two sizes larger than the other, and, in sitting, the longer tibia carried the knee up higher than the other, but the femur of that side was correspondingly shorter, and the two limbs were of about the same length. The patient regarded it as an abnormality of development, because he knew of no history of disease to account for it.

DR. C. K. BRIDDON then reported the following

CASE OF NEPHRECTOMY.

Mary Smith, aged thirty-six, native of Ireland, married, was admitted to the Presbyterian Hospital, July 1, 1885. She had enjoyed good health until a few months ago, when she began to suffer from pain in the right side of the abdomen, it was of a continuous character and never paroxysmal; at the same time it was noticed that her urine was turbid, there was no increased frequency in passing it, and there was no hypogastric pain; she was much annoyed by vomiting, headache, and fever. Rest, and the use of emollient cataplasms, sufficed to relieve her for the time, but on resuming her duties in the house the troubles returned.

Physical examination detected nothing of importance in the cavity of the chest.

In the right side of the abdomen was a tumor filling the lumbar region, and reaching to the median line; it had somewhat of the form and configuration of the kidney; it was dull on percussion, the dulness above being continuous with that of the liver; over the lower anterior and inner borders was a line of resonance.

Urine averaged twenty ounces daily, one-half its volume was composed of pus, its specific gravity was 1.018; it was acid and albuminous, but contained no casts.

The diagnosis was pyelonephritis.

*July 29.*—Tumor has increased in size, it reaches one inch to left of the median line, causes bulging in the lumbar region with some abdominal protrusion; vertically it extends from the tip of the eleventh rib to the anterior superior spine of the ilium; has no acute, but dull continuous pain, and some tenderness on pressure; she has evening exacerbations of temperature, secretion of urine scanty, one-half pus but no casts. The diagnosis was confirmed, the propriety of making an incision in the loin was discussed, favorably entertained, and advised. It was proposed to do a nephrotomy, but preparations were made to substitute nephrectomy if conditions were found to call for it. The patient was prepared by the daily use of baths and the administration of aperients, and the operation was done August 1st with strict adherence to all the details of the antiseptic system, and under the influence of ether.

The lumbar region was made prominent by the use of sand bags, the usual transversely oblique incision was made below the lower border of the last rib, and there was not the slightest trouble in exposing the kidney, which was quite superficial; on opening its capsule, it felt solid, and non-fluctuant, its posterior dimensions were such, that with the index and middle fingers insinuated between the capsule and the gland until the knuckles were in contact with the transverse processes of the vertebræ, it was found impossible to reach the hilum. It was at once determined to remove the organ through an incision in the abdominal walls. After the necessary changes in the position of the patient, an incision about eight inches long was made along the external border of the right rectus muscle. When the peritoneum was reached, a few bleeding points were controlled, and the serous sac was opened; the tumor was at once exposed, its lower part crossed obliquely by the ascending colon, and little else was seen of the intestines, which were kept well within the abdominal cavity by the use of flat sponges.

The peritoneum covering the kidney was next exposed and incised, coming down at once to the capsule, which was opened to about the extent of three inches, this tunic was then separated from the organ, and there was no difficulty in doing so, except at one point on the anterior wall, where it was adherent, and in separating this adhesion the cavity of an abscess was opened. As soon as means were instituted to guard against the entrance of pus into the peritoneum, the cavity was enlarged permitting the escape of about eight ounces of pus; it was entirely emptied, its walls disinfected, and when it was filled with a sponge charged with antiseptic, the operation was proceeded with, the kidney was drawn through the opening in the abdominal walls, and an inspection of its pedicle presented conditions of interest. It was, including the reflected capsule, nearly two inches in diameter. It was not at this stage possible to recognize its different constituents, the only thing that could be distinguished was the presence of a hard body that was believed to represent a calculus. A limited incision was then carried round the pedicle, passing through infiltrated tissue that was probably capsule; a ligature of strong silk was then passed round and secured; it was then transfixed by a second that was secured on either side, and as the size of the pedicle warranted the suspicion that it might shrink so much as to permit hemorrhage, an elastic ligature was applied on the proximal side of the others; the ends of the elastic ligature were cut short, the ends of the others were left long, and they were passed through a drainage tube in the loin; the opening in the posterior wall of the peritoneum was then closed by a continuous suture, shutting off the cavity from which the kidney was removed, from that of the peritoneum, leaving the capsule, stump, ligatures, and drains continuous with the opening in the loin. There was very little exposure of the peritoneum, only that in the immediate vicinity of the operation; its toilet was made as perfectly as possible, and the abdominal wound was closed by three lines of sutures, one for the peritoneum, one for the muscular and aponeurotic structures, and one for the integument. Irrigation was made during the operation with Tiersch's solution, a layer of iodoform gauze was placed over the wounds, the whole supplemented by a dozen layers of mercuric chloride gauze and a quilt of jute.

The patient rallied well after the operation, and was not annoyed by vomiting. At 10 P. M. temperature in the rectum was 101°, pulse 120.

*Aug. 2.*—Temperature reached 102° in the night; at 9 A. M. it was the same; no vomiting or abdominal pain. Up to 7 A. M. nine ounces of urine were passed; it was albuminous, contained ten per cent. of pus, and hyaline and granular casts. She was ordered only sufficient

morphia to quell pain, and was sustained by nutrient enemata.

*3d.*—Patient rested fairly well during the night but this morning she has been annoyed by nausea and eructations of biliary matter; there is very slight distention of the abdomen; temperature has fallen one degree, and pulse remains at 120; she has passed seventeen ounces of urine during the past twenty-four hours, it contains but little pus, is acid, specific gravity 1.025, albuminous, and contains hyaline and granular casts. During the day the vomiting became more frequent, coffee colored, or more like porter diluted with water; very slight distention of abdomen, only slight tenderness in the immediate vicinity of the operation wound.

*4th.*—Condition unimproved, vomiting not relieved by sipping hot water or iced champagne. She was ordered hourly drop doses of creasote; toward noon the temperature went up to 103°, the vomiting ceased after the first dose of creasote, but she went rapidly into collapse, which was not influenced by the prompt use of cardiac stimulants, including the hypodermatic use of camphor dissolved in ether, and she died at 9.30 P. M. seventy-eight hours after the operation.

The kidney removed by the operation was found to be the seat of multiple abscesses; most of these were of considerable dimensions, the largest would have contained an ordinary-sized lemon; they communicated one with another, and through their intercommunication opened by a small orifice into the dilated pelvis; the latter was occupied by an umbrella-shaped calculus weighing 125 grains, and measuring one inch and a quarter by one inch; the nucleus of this was a perfect oval, which had evidently lain transversely across the opening of the ureter, and the expanded portion was formed by accretions around this, forming an incomplete cup for the nucleus, the stem projecting into the ureter; there was a second small oval calculus, and a fragment in one of the abscesses.

When all the cavities had been emptied by expression, and after the organ had shrunken in strong alcohol, it measured vertically six inches, antero-posteriorly four and a half, and transversely three and a half inches.

Autopsy was made on the 5th, about twelve hours after death. It was necessarily incomplete, as it could only be made through the operation wound; the margins of the incision in the abdominal walls were firmly agglutinated; there was no fluid effusion in the cavity of the peritoneum; not a trace of any but conservative processes, save at one point where there was a very insignificant adhesion, between the lower border of the right lobe of the liver and the colon, it was difficult to detect the line of incision in the peritoneum covering the cavity from which the kidney had been removed, so perfect was the process of repair. The stomach was enormously dilated, and filled with fluid similar to that which had been vomited during life. The ureter on the right side was not dilated. The wound in the loin looked well. The stump of the kidney was much reduced in size, and was free from odor—in fact, there appeared to be an entire absence of such conditions as would be likely to cause septic infection.

Report of condition of left kidney by Dr. William H. Porter, Curator. The kidney received for examination was larger than normal and weighed about six ounces (170 grammes); it was pale in color, the capsule a little thickened, and slightly adherent in places to the underlying renal tissue; the surface of the gland, however, after enucleation was fairly smooth.

The cut surface showed both the cortical and pyramidal portions to be enlarged, the former being twice the normal thickness. The markings of the cortical arches were straight, and the parenchyma had a pale granular and fatty look to the unaided eye.

*Microscopic Examination.*—The epithelial cells, both of the straight and convoluted portions of the uriniferous tubules, showed the protoplasm to be in a state of coarsely granular metamorphosis, which had caused the cells to become swollen and in many places the lumen of the uriniferous tubules was obliterated, while at other places the epithelial corpuscles were becoming necrotic, and detached from the underlying basement substance. At points in the section there was marked evidence of an increase in the intertubular tissue, which in all probability had existed for some time, and was of slow formation and chronic in nature.

The lesion therefore was double, or a chronic diffuse nephritis, upon which a rapidly progressing acute parenchymatous metamorphosis of the epithelial cells had been superinduced.

*Remarks.*—The first important feature in the history of this case will be found in the absence of such symptoms as are commonly regarded as sufficient to warrant a suspicion of calculus. Pain was not a prominent feature, and was at no time characteristic; there had been some complaint of dull, obscure, fixed, and deep-seated pain in the lumbar region, but at no time was it of a radiating character, and she experienced none of the severe paroxysms which indicate the descent of a calculus from the kidney to the bladder. Of course, it is well known that in exceptional cases there has been an entire absence of such symptoms as could be referred to the kidney. Cases are reported in which large concretions have been found after death, but in which no suspicion of such condition was entertained during life. In very many cases the signs are obscure, in some pointing more to the bladder than to the kidney.

In this case, pain was complained of only a few months before she applied for treatment, and yet the size of the stone would appear to indicate that it had existed long before such symptoms manifested themselves; in fact, the case was looked upon as one of suppurating kidney, and the existence of stone as an exciting cause was scarcely entertained.

The condition of the opposite kidney was a matter for serious consideration. In a paper read before this Society, "On the Causes of Death in Cases of Abdominal Surgery," in October, 1883, a prominent position was given to the influence exercised by inefficient action of the kidneys, on the result of such operations. In the *Annales des Mal. des Org. Génito-urinaires*, No. 5, 1885, is an interesting account of investigations made by Dr. Thiriar, on the condition of the urine after abdominal operations; the result of such observations goes to prove that when the quantity of chlorides in the urine falls below fifteen and a half grains a day, septic peritonitis is threatened.

The amount of urine passed by the patient had been small; there had been no symptoms of obstruction of the urine on the side affected, so we had no opportunity to estimate the condition of the secretion derived from

the opposite side. Catheterism of the ureter was not used, and we had no means of employing the method of Tuschman, concerning which Mr. Morris, in a discussion before the Medical Society of London, is stated to have said "that he was not able to speak of it with confidence." It consists in compression of one ureter by an instrument specially adapted to the purpose. In the absence of such methods of precision, we had to conclude that, from non-existence of tumor on the opposite side, and the absence of toxic symptoms, that the other kidney was in a sufficiently healthy condition to bear the additional tax that might follow the destruction of its fellow.

As stated in the history of the case, the operation was to be explorative in character, the subsequent steps to be determined by conditions found upon making a preliminary incision in the loin. It might have been possible then to have aspirated suppurative foci, but the posterior half of the organ was so apparently solid that the determination of fluctuation was not sufficiently marked to suggest the use of the needle. It might also have been possible to detect a calculus by acupuncture; but I thought that, inasmuch as I could not feel the pelvis with the whole length of the finger buried in the wound, that puncture would be useless. This subject of the selection of the proper operation has occupied the minds of those engaged in this department of surgery, and expressions of opinion have been various, but I think that the very able, and exhaustive analysis made from the reports of a large number of cases by Dr. Samuel W. Gross, and published in the *American Journal of the Medical Sciences*, for July, 1885, has settled the question, and I quote with pleasure the following extract from that portion of the article which refers to the suppurative conditions.

"It will thus be seen, that of 73 nephrectomies for suppurative lesions from all causes, 41 recovered, and 32, or 43.97 per cent., died. Of 93 nephrotomies, on the other hand, 71 recovered, and 22, or 23.65 per cent., died. It, moreover, appears that of 12 nephrectomies after a previous nephrotomy, only 1, or 9.33 per cent., succumbed, while of 61 nephrectomies without preliminary incision and drainage, 31, or 50.81 per cent., perished. In other words, the mortality of removal of the kidney for suppurative conditions is nearly twice as great as after nephrotomy, and a preliminary nephrotomy diminishes the risks of nephrectomy by 41.48 per cent. Hence we may conclude that a suppurating kidney should never be excised until after the failure of nephrotomy, the only inconvenience of which is that a permanent sinus or urinary fistula remains in 29.57 per cent. of the recoveries, either of which may, however, should it prove a source of discomfort, be remedied by subsequent lumbar extirpation of the shrunken sac, with the risk of only 9.33 per cent. In favor of a preliminary nephrotomy, it is also to be declared that it enables us to determine with almost a certainty the condition of the opposite organ, that is to say, if, after a few days of drainage, pus ceases to appear in the urine, the probability is that the other kidney is sound."

With a full knowledge and appreciation of these conclusions, it may be asked, Why was not the kidney incised in the present case, and why was the abdominal substituted for the lumbar section? In answer to the first question, it must be stated that the pathological conditions were not recognized in the loin operation; and in answer to the second, I must express the opinion, that I think it would have been impracticable to remove so large a tumor through the first incision, which was obliquely transverse, and which I prefer to the vertical incision, so ably advocated by Dr. Lange, in an article on "The Surgical Anatomy of the Kidney," published in the *Annals of Surgery*, 1885, an incision which suffices admirably for the exploration of the pelvis, and for the removal of calculi from moderate-sized kidneys, but which, for the removal of a large kidney would necessitate such extension upward as would trench on the domain of the pleura, especially in the not uncommon cases where the last rib is rudimentary, and in which cases the pleura is prolonged outward to the lower border of the eleventh rib. The oblique incision may easily be supplemented by a short vertical, or its terminal end may be prolonged into a V.

I think there are decided advantages in making an opening in the loin for drainage in cases where the abdominal section is determined upon. It only slightly complicates the operation, and permits of perfect closure of the peritoneum with efficient outlet for discharge, and an equally efficient inlet for antiseptic irrigation when it may be required.

The impetus given to the surgery of the kidney by the successful interference in cases of calculus, and the intelligent observation and interpretation of conditions that occasionally follow such operations, has led to achievements which I think may be truly regarded as triumphs in the practice of our art. I refer to the case which recently occurred in Guy's Hospital, in which McClement Lucas removed a hydronephrotic and calculous kidney, and in which case, after a complete recovery, the patient began to suffer pain in the opposite organ, rapidly followed by suppression and uræmic intoxication. Mr. Lucas cut down on the kidney, removing a calculus from the pelvis, which was followed by a free discharge of urine, and recovery. Very similar was the case reported at the last meeting of this Society, in which Dr. Lange had done a nephrectomy, which some time after was followed by symptoms of acute anuria, and in which an exploration of the pelvis of the remaining kidney enabled the operator to remove an obstruction from the ureter, and thus saved his patient from impending dissolution.

DR. POST presented a photograph he had lately received, and which represented the present condition of a patient on whom he had operated for

EPITHELIOMA OF THE LOWER LIP

one year ago. The disease was extensive, and involved a little more than the left half of the vermilion border of the lip, and extended into the cheek a short distance beyond the angle of the mouth. The two lips appeared very nearly equal.

The operation was performed as follows:

A horizontal incision was made from the left angle of the mouth to a point beyond the morbid growth, and a vertical incision was extended downward from the left extremity of the horizontal incision. Another vertical incision was made on the right side of the median line, and the two vertical incisions were joined by a second horizontal incision below the level of the disease, and the tumor was thus removed. The two horizontal in-

cisions were extended to the left so as to include a large flap which was drawn to the right so as to meet the remaining portion of the lip on that side. The upper margin of the transplanted flap was provided with a vermilion border by stitching the mucous membrane to the skin. To prevent the puckering of the integument, and to give symmetry to the two lips, a triangular portion of the cheek was removed, the base of the triangle being on a line extending from the left angle of the mouth outward into the cheek to the extent of two centimetres, and the apex being at a point two and a half centimetres above the base. The parts were secured in apposition by pin sutures and fine silk. The operation was a modification of Burow's.

THE PRESIDENT said it had seemed to him that in similar operations for restoring the lower lip it is only necessary to remove the thickness of the skin, not even including the muscular tissue. If the skin alone is removed, the flap will fit, the muscular substance will contract, and the mucous membrane will take care of itself.

DR. POST said that he retained only such an amount of mucous membrane as was necessary to restore the vermilion border of the lip, and the result had been to make the two lips almost symmetrical.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

*Annual Meeting, January 18, 1886.*

THE PRESIDENT, C. A. LEALE, M.D., IN THE CHAIR.

DR. LAWRENCE J. MCNAMARA, Instructor at the Carnegie Laboratory, read a paper entitled

### A STUDY OF THE ETIOLOGY OF TUMORS.

It was intended, he said, as an examination of some of the existing theories on the subject, and an attempt to adapt them to the various forms of tumors, which he had personally investigated. The existence in the body of an independent growth, distinct in its histological elements from the surrounding matter, drawing nutriment from the general system, and liable at certain periods of development to infect the organism, has always been a perplexing, though fascinating subject to the observer. Advances in histological work have enabled us to make a partial classification of these new growths, according as they are formed on some type of existing normal tissue, as epithelial, muscular, nervous, or connective tissue. This group of neoplasms, under which are ranked tubercle, syphilis, glanders, etc., has a distinct place as formations of an infectious origin; and are no longer considered as tumors similar to those now under discussion.

The class of tumors formed after types of normal tissue which are most frequently brought to the notice of the surgeon are sarcoma and carcinoma. These are distinguished from tumors of a benign character, by secondary formations or metastases, and the tendency to recur when removed. These metastatic or secondary deposits bear the same relation to the structures in which they have found a resting-place as did the parent tumor. They assume the changes in growth, development, and invasion of organs identical with the primary growth. The channels of infection are the lymph and blood. In the ordinary cases of carcinoma, examination of the advancing mass shows infiltration of the normal tissue by epithelial cells. The lymphatics are found plugged with epithelial elements, and the glands contain the same distinct cells. In this formation, at least, it is unnecessary to imagine a virus, transmitted to the body from without, as the cause of the proliferation.

There can be no doubt of the malignancy of cancers. The metastases, however, are always of epithelial formation, similar to the primary cancer, and the epithelial cells resemble one another in shape and appearance. The important fact lies in the misplaced epithelial cell. Like the forms of vegetable life, the cell is influenced in its activity by the nutriment which surrounds it; and a modification of this condition leads to a change in its activity. The epithelial cell, if placed in a tissue receiving more nutriment than its own, must, undoubtedly, show some changes in its activity. The transplanting of the spur to the comb of a cock is a familiar example. In some cases of cancer of the breast it seemed to him that he could make out a distinct connection between the swollen epithelium of the duct and the cells beyond, and this fact has been mentioned by others. The epithelium in the connective tissue and the duct seemed identical in form and appearance.

The diagnosis of cancer cannot be made until the epithelial cells form nests in the connective tissue. If this epithelial element does not come from the proliferating interpapillary processes, it may have existed previously; and to suppose this is to admit the embryonic theory of Cohnheim. The arguments advanced by its originator offer very convincing proof of the etiology of many complex tumors, like the sacral teratomata, the mixed tumors of the parotid, dermoid cysts, etc. Applied to the sarcomatous group of tumors, the theory has no direct proof of their embryonic origin. There cannot be as much reason for accepting the belief that epitheliomata of the lips, pylorus, or rectum, originated from an embryonic epithelial cell displaced and started in growth by continued irritation, as believing that irritants may cause the invasion of the connective tissue by the proliferated epithelial elements.

In sarcomatous growths, however, more difficulty is experienced in accepting this embryonic theory. Until proof can be furnished that these embryonic cells exist in the body and develop into a distinct tumor under favorable circumstances, the theory of Cohnheim cannot be logically entertained, The transplanting of embryonic cartilage to the adult animal, and its development into a tumor, proved, he thought, the fact of the power of embryonic cells to live and multiply in a mature matrix. It is conclusive, however, that the embryonic cells will grow in the mature organism under favorable conditions. Another difficulty in determining the embryonic foci is the similarity under the microscope of embryonic cells, the round cell of inflammation, and the small cell of sarcoma.

Having quoted from Billroth in the summary of his remarks on the etiology of tumors, Dr. McNamara remarked that the perplexing theory of predisposition as the cause of tumors is found in many of the theories; and said that it serves the purpose of hiding their defects and increasing the obscurity in which the cause of these neoplasms lies. Malignant growths have often been compared to the infective granulomata in their course and development. The changes which occur in these infective neoplasms, such as necrosis and the like, may find

counterparts in the malignant deposits of tumors. Clinically, there are other points of resemblance; but the infective granuloma, besides possessing the power of invasion of tissues, may be inoculated. Clinical efforts or experimental works have not been able thus far to connect a bacterium with the cause of tumors.

Still, the infectious origin of sarcoma possesses at present great attractions. The discovery of a vegetable growth as the cause of actinomycosis has some bearing on this subject; and actinomycotic tumors were called, before their parasitic nature was proved, osteo-sarcoma, tuberculous tongue, etc. Sarcoma, when rapidly growing, presents changes of a similar character in the reactive appearance of the cells. If this variety of tumor is caused by a microörganism, it must be of a nature which requires very favorable conditions for its development.

If a microörganism be considered as the cause of carcinoma, the question why it should affect the epithelial cells alone, does not seem capable of explanation. Microörganisms cannot produce an epithelial or connective tissue cell; since one being cannot form another higher in the animal economy than itself. The action of the microörganism is of an inflammatory character, specific in its nature. In carcinoma the inflammatory changes represent the action of the cellular matrix. The same may be said of sarcoma. The hyperplasia of the matrix is but an indication of the efforts of the tissue to cast out or destroy the foreign body. In conclusion, he remarked that it seems that to no one theory can be assigned the production of these tumor-growths.

DR. J. W. S. GOULEY thought that Dr. McNamara's position concerning the question of microörganisms was well taken, and said it was his belief also that it is not likely that a microörganism can end in an epithelial or any other kind of cell. The cell itself is sufficient to give rise to the mischief which is excited in cases of advanced cancer.

THE PRESIDENT remarked that the author of the paper had, with a single sharp stroke, thrown aside the theory of Darwin, when he stated that one being could not form another higher in the animal economy than itself. He then related a case in which he removed a schirrus of the breast, where three of the patient's sisters died of cancer. The family history showed that the father, who was a resident of Richmond, Va., had died of a "tumor of the stomach," the exact nature of which could not be ascertained, and that the mother had died of a "tumor of the liver." In this patient the cancer did not return in the breast, but three years after the removal of the mammary growth she died of metastatic cancer of the liver; the lungs being also finally implicated. One sister had cauliflower cancer of the uterus, and another schirrus of the uterus. It was a curious fact, that the trained nurse who attended the lady whose breast he removed also had mammary cancer. One year afterward he removed this also, and a year after that, the axillary glands. It would be of interest, he thought, to know whether it was possible that there could have been a transmission of the affection from one individual to another in these cases.

DR. DANIEL BROWN related a case which he thought might serve to throw some light on the etiology of tumors. A young lady twenty-two years of age, residing in Eastern Pennsylvania, fell on a doorstep and slightly bruised her hip. Afterward no further effects were noticed for some sixteen or eighteen months, when she began to suffer considerable pain in the part. It was at first supposed that she had rheumatism; but afterward a diagnosis of hip-joint disease was made, and a blister was applied. In a few weeks she became unable to walk, and now a small tumor made its appearance over the head of the femur. This growth gradually increased in size, and it was found to be an osteo-sarcoma. The patient was brought to New York and placed under Dr. Brown's care, and at this time the tumor measured twenty-eight inches in its longest diameter, occupying the whole of the ilium, together with the upper fourth of the femur. The late Dr. James R. Wood saw the case in consultation with Dr. Brown; but it was thought best not to perform an operation. The patient finally died, and the growth was found to weigh between forty and fifty pounds. The chief interest of the case lays in the apparent development of this enormous tumor from so slight a cause.

DR. MCNAMARA said that the occurrence of several cases of cancer in one family, as mentioned by Dr. Leale, might be due to predisposing causes, such as climatic influences, etc., to which they were all equally exposed.

DR. FRANK GRAVES presented some interesting pathological specimens for Dr. Janeway, who was unexpectedly prevented from being present. The first case was one of

EPITHELIOMA OF THE ŒSOPHAGUS,

in which there resulted a stricture of the latter four inches in length. Both recurrent nerves were involved, and during life there was paralysis of both vocal cords; neither abduction nor adduction being well performed. Another interesting feature of the case was that the first symptoms appeared after the patient had swallowed a piece of bone, which he supposed had become lodged. Tracheotomy was performed by one of the house physicians of Bellevue Hospital, in order to avert impending suffocation from the laryngeal symptoms. He died as the result of exhaustion, as he was unable to swallow food, and had great distress in respiration. At the autopsy there was found dissemination of the cancer in the liver, lungs, and bronchial glands. The main point of interest in connection with the case was, from the comparative rarity of the circumstance, the implication of both recurrent nerves by the pressure of the growth.

The second case, the specimens from which were presented, was one of

PRIMARY TUBERCULOSIS OF THE KIDNEY.

There was pyonephritis, and the right ureter was obstructed. The inflammatory process had extended from the kidney to the bladder, which was found in a condition of tubercular cystitis.

DR. GOULEY inquired whether there was any history in the latter case.

DR. GRAVES replied that there was not; the patient having been brought into the hospital *in extremis*. Very few tubercles were found in the lungs, and he thought that there could be no doubt that it was a case of primary tuberculosis of the kidney.

DR. GOULEY thought that the question might be raised whether the tubercular trouble did not commence in the bladder, rather than the kidney. In at least two cases of his own, both of which terminated fatally, such was the case; and in one or two others the tubercle commenced in the urethra. One of his cases he had the opportunity of following up for a year. It commenced apparently with a mild cystitis, and this gradually became more aggravated, until the ureter and kidney were involved. The tubercular character of the trouble was not, however, at first suspected.

DR. GRAVES said, in reply, that in this case the trouble in the bladder was clearly secondary to that in the kidney, since, in the latter, the disease was much further advanced than in the bladder; while the ureter was open at its lower extremity, where it enters the bladder, but above, toward the kidney, it was occluded.

ELECTION OF OFFICERS.

The annual election of officers resulted as follows:

*President.*—Dr. Charles A. Leale.

*Vice-President.*—Dr. John Shrady.

*Recording Secretary.*—Dr. P. Brynberg Porter.

*Corresponding and Statistical Secretary.*—Dr. Glover B. Arnold.

*Treasurer.*—Dr. E. S. F. Arnold.

*Members of the Executive Committee.*—Drs. John H. Hunter and C. S. Wood.

After the meeting there was a collation and social reunion in the Library of the New York State Medical Association in the Carnegie Laboratory.

## OBSTETRICAL SOCIETY OF PHILADELPHIA.

*Stated Meeting, January 7, 1886.*

THE PRESIDENT, B. F. BAER, M.D., IN THE CHAIR.

DR. HOWARD A. KELLY exhibited recent specimens of

PYOSALPINX, HYDROSALPINX, AND PAPILLOMA OF THE HILUM,

with gelatinoid thickening of the Fallopian tube. The histories of the cases will be given at some future time.

DR. GOODELL stated that while he recognizes the necessity for operation in pyosalpinx, he does not think it necessary in hydrosalpinx. He now refuses to operate in some cases of cystic disease in which one ovary may contain a cyst as large an an orange, or in which the tube may be distended to the size of a sausage, when the sufferings of the patient and her general symptoms are not severe enough to warrant the operation. In many of these cases the symptoms may all be removed by the rest treatment, and it should first be tried. Small cysts are frequently found in ovaries, especially when fibroids are present, but they do not necessarily develop into large ones. In many cases the cause of pelvic symptoms can be diagnosticated by exclusion only, and even when small cysts or dilated tubes can be felt, treatment should be first tried and will be sometimes successful without operation. He thinks the error of the present time is in the direction of too much surgical interference.

DR. MONTGOMERY remarked that there is a class of cases suffering from small ovarian cysts or distended tubes, in which the rest treatment or any other loss of time could not be thought of, and in which operation seemed imperative. This is on account of the pecuniary condition of the patient, who may be self-supporting, or may be the only support of others. The suffering and exhaustion of the disease incapacitating them from work, relief is imperatively demanded, and he considered operation justified.

DR. GOODELL recognized this element of poverty, and has operated for this reason in some instances. He was led to make his remarks by a case now under his care. A lady was sent to him for operation after an opinion had been given by an experienced gynecologist of another city, that relief could be attained by operation only. On one side the ovary was enlarged and the other ovary was prolapsed and tender. Rest treatment had wholly cured her. In these remarks, he meant to cast no reflection on any of Dr. Kelly's cases. Pus was present in all of them, and operation seemed to be demanded in all.

DR. BAER had been strongly impressed lately with the views expressed by Dr. Goodell. Dr. Baer thought all conservative means should be tried before operating.

DR. KELLY replied that he had presented the specimens purely from an anatomical and pathological standpoint, and that he will give the histories at some future time, when the results of operation are well demonstrated. In each of them operation was imperatively demanded to save life. It is in such cases as those presented this evening that the great work in the future must largely lie. If the details of ovariotomy have been perfected, in such cases as these the chapter is only being opened. They are not examples of Battey's operation or Tait's operation, but stand as representatives of classes of disease well defined with equally well-defined indications for treatment. The extraordinary difficulty of digging such masses as these out of the pelvis makes operative interference very fatal, although it is the only resort.

DR. WM. GOODELL read a paper on

A YEAR'S WORK IN LAPAROTOMY.

(See page 117.)

DR. MONTGOMERY thought Dr. Goodell should be congratulated upon his success, which is remarkable for operations in unselected cases in the United States. He thought the knowledge of the safety attending the application of Monsel's solution to oozing abdominal surfaces very gratifying. He would have used it recently, but for the fear of bad after-effects. He must, however, again enter his plea for the second ovary. In young women small ovarian cysts are common; they are frequently found in post-mortem examinations when there had not been the slightest evidence during life of their presence; and evidently these small cysts do not necessarily develop into large ones. The two cases of secondary ovariotomy reported by Dr. Goodell, are not sufficient to warrant the rule of removing the second ovary when it is but slightly diseased. As a counter weight to Dr. Goodell's cases, he would mention that in the instance of a young married woman from whom he removed an ovarian tumor, and in which he left the other ovary, which was slightly affected, pregnancy has since occurred, followed by the delivery of a living child.

DR. KELLY remarked that Dr. Keith had had remarkably good results from the application to oozing surfaces

of a solution of pernitrate of iron. He has observed the gradual disuse of carbolic acid in washing waters in operations. Dr. Kelly prefers boiled or distilled water as used abroad, as he is sure that carbolic acid and other germicides are frequent causes of poisoning, and bad results after the operation. He asked Dr. Goodell what were his rules respecting the use of the drainage tube.

DR. BAER had experimented with Monsel's solution. In one case in which he used it, he attributed the fatal result to it. The coagulation by the iron is unsightly, and he should now consider it a last resort. He had had very good results from pressure by packing sponges against the bleeding points combined with external pressure. He withdraws the sponges at the last moment before tightening the sutures, and then bandages the abdomen tightly.

DR. GOODELL remarked that Dr. Montgomery was perfectly right in his defence of the second ovary, and he himself had performed double ovariotomy in only seventeen cases of the twenty-eight. He did not believe that every ovary studded with cysts would inevitably degenerate into an ovarian tumor. So in the case of slightly diseased ovaries in young married women he would be disposed either to let them alone or to remove the diseased portion only. But in women approaching the climacteric, or where other conditions make it advisable, he would remove the second ovary as useless in itself, and as a possible source of future trouble. He had used the drainage tube but three times during the past year: once in the unfinished case of oöphrectomy, again in the case of torn bladder, and in the case requiring over thirty ligatures, and with universal adhesions. In general, he uses it when a free oozing of blood is to be expected, but he regards it as a source of trouble, and removes it as soon as possible.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, January 21, 1886.*

THE PRESIDENT, A. JACOBI, M.D., IN THE CHAIR.

### REFLEX SYMPTOMS IN NASAL AFFECTIONS.

DR. E. GRUENING, of the Section on Ophthalmology, opened a discussion on this subject.

He said that, in his remarks, he would exclude ocular affections resulting from extension of catarrhal processes from the Schneiderian membrane. Having mentioned that hemicrania and asthma have been cured in a considerable number of instances by the removal of sources of irritation in the nasal passages, as reported now by many observers, he remarked that to the ophthalmologist the reflex apparatus of the nose is of very great interest. The connection between the latter and the eye is intimate, and the relations of the two are reciprocal. Thus, irritation of the nasal mucous membrane frequently produces lachrymation and other eye symptoms; and in the case of certain irritable eyes, exposure of the organ to a strong light brings on attacks of sneezing. Knowing that ocular symptoms are met with in connection with nasal affections, we may reason, *à priori*, if there is no other apparent cause, that the former are dependent on the latter; and if, after appropriate local treatment, the eye-symptoms still persist, we may conclude, *à posteriori*, that such is the case.

In simple cases the instillation of cocaine into the nostrils often affords a satisfactory test as to whether the ocular trouble is dependent on nasal irritation or not; for if it affords relief to the eye symptoms, we may conclude that the latter are to be attributed to the condition present in the nose. Dr. Gruening then related several cases of his own, as examples in which the eyes were affected for many years in consequence of comparatively mild affections of the nasal mucous membrane, and in spite of the most persevering and skilful treatment, directed to the ocular condition; but in which the eye trouble promptly disappeared as soon as the nasal affection was removed by appropriate treatment.

All the cases, however, were not of this simple class, and he then related several in which the reflex eye symptoms were due to more serious pathological conditions of the nasal cavities. In them also the eye trouble disappeared as soon as the source of irritation in the nose was removed. In one instance where the patient had suffered for many years, the eyes were permanently cured on the very day that a large mass of hypertrophied tissue was removed from the nose. During the past two years he said he had met with some two hundred cases in which he could refer the ocular symptoms to nasal trouble; but the treatment, which varied according to the circumstances of the case, was not always successful. In most of the unsuccessful cases, however, the patients had disappeared before the treatment was completed, or perhaps was fairly commenced. Still, in about one hundred and fifty of the two hundred cases complete relief had been afforded by the removal of abnormal conditions of the nasal passages.

Among the symptoms mentioned as most frequent in these cases of reflex eye trouble are: Burning and smarting sensations in the eyes, more pronounced in the morning; inability to fix an object in ordinary daylight; irritation and gluing together of the lids; extreme sensitiveness to cold and wind; lachrymation. Other characteristics were; inefficiency of ocular treatment, and inefficiency of nasal treatment, even in spite of the absence of nasal symptoms.

DR. THOMAS E. MCBRIDE related five cases which he thought served well to illustrate the general subject under discussion. The first was that of a gentleman who consulted him in 1882 for well-marked migraine. The attacks were thoroughly characteristic and lasted for about eighteen hours, leaving him completely exhausted. In addition to appropriate hygienic and dietetic measures, he placed the patient on the use of arsenic and extract of cannabis indica. The former he gave up in about six weeks, but the latter he continued, in increasing doses, for fourteen months. By this time the seizures were less frequent than formerly, but the patient had become disgusted with the cannabis indica, and complained that it made him sick. Indeed, he had suffered from almost constant nausea. In consequence, this remedy was withdrawn, and he was placed on the use of bromide of sodium, under which the attacks of migraine became still less frequent. While in Europe, however, he chanced to come into the hands of Hach, who discovered that he had post-nasal catarrh; and the successful treatment of this completely and permanently cured the migraine.

The second case was that of a boy of eleven years of age, of neurotic family history, who for several years

had suffered greatly from headache, which was always much worse in winter than in summer. It was frontal in character; and it having been discovered that he had nasal catarrh, he was placed under treatment for this, and afterward had no more headache.

The third case was that of an unmarried lady, also of neurotic antecedents, who was affected with lithæmia, and suffered from neuralgia and headache. The latter was situated in the upper part of the forehead, and extended toward the vertex. She was referred to Dr. Lefferts, who found that she had hypertrophy of the mucous membrane of the inferior turbinated bones; and the appropriate treatment of this condition put an end to her headache and neuralgia.

The fourth case was that of a married lady of fifty in whom the menopause had occurred at the age of forty. She suffered from hemicrania and hay fever; but was cured by the local treatment of the nasal mucous membrane by a rhinoscopist.

The fifth case was that of a married lady who suffered from difficulty of deglutition and the regurgitation of food into the mouth after it had been swallowed. Four years ago she was treated in Europe for post-nasal catarrh, which is still not entirely relieved. Gastric catarrh also was undoubtedly present. Dr. McBride placed her on the use of iron and arsenic, and applied to the nasal mucous membrane a spray of four per cent. solution of cocaine, with the effect of completely relieving the symptoms mentioned; and thus far there has been no return.

DR. BEVERLEY ROBINSON called attention to the fact that nasal disease might produce reflex affections of the respiratory and digestive tracts, the genito-urinary apparatus, and the cutaneous surface. On the present occasion, however, he said that he would limit his remarks to hay fever and asthma. It was time, he thought, that the designation hay fever was given up, and that the affection thus called should be given its true name, vasomotor coryza, as proposed by Dr. John N. McKenzie, of Baltimore. It is a curious fact, however, that the old pollen theory has recently been again brought into prominence by the advocacy of no less distinguished an authority than Morrell Mackenzie, of London; thought it is no longer accepted by the great mass of observers. Still, pollen undoubtedly acts as an irritant in certain cases. Dr. Robinson then gave a sketch of the researches of Beard, who tried to prove that hay fever is purely a nervous affection, and of Daly, of Pittsburg, who, five years later, showed its dependence on local conditions in the nasal cavities. Since then, much light has been thrown on the subject by Roe, Sajous, Bosworth, and John N. McKenzie. The nasal trouble present in any case may be either permanent or temporary.

Sometimes cough is dependent on nasal conditions—as, for instance, the presence of a polypus, deviated septum, atrophy, hypertrophy, and chronic rhinitis; but, although asthma sometimes occurs in connection with these conditions, they may, of course, exist without giving rise to asthma. In this connection, he related the case of a well-known physician of a neighboring city, who suffered greatly from the latter affection. A number of polypi were removed from his nose; but the asthma, which was no doubt dependent on an old bronchial catarrh, still remained. We must not forget, also, that asthmatic symptoms may be the result of reflex influence from abnormal conditions of other organs, such as the liver, stomach, uterus, and even, according to some observers, the spleen. In every case of asthma it is necessary to make a thorough investigation of the cause.

In regard to the nasal mucous membrane, Dr. Robinson said that in all probability there are areas of special sensibility at times, but his own observations went to show that these are not constant. The sensibility is probably less circumscribed and more general than has been supposed. Apart from any nasal trouble, there must be a special personal tendency, since there are many cases of nasal disease without any resulting reflex conditions.

Cocaine has been recommended as of special service in making the diagnosis of nasal affections, on account, first, of its anæsthetic properties, and, second, because it diminishes the congestion of the parts. He was convinced, however, that cocaine is not always a successful anæsthetic, especially after it has been used for some time; and that, while its primary effect is to diminish the vascular supply, its subsequent action is to increase this. In the treatment, we must be guided by the condition present, and it is well to remember that nasal hypertrophy does not always exist. Dr. Robinson spoke particularly of the good effects of carbolic acid in the treatment of nasal disease.

DR. GOODWILLIE exhibited several wax casts of nasal obstructions in which he had operated. One was a case of deviated septum, with exostosis and hypertrophy of the mucous membrane; in another, there was complete occlusion of the right nostril; and, in another, in which the patient was a sufferer from hay fever, there was hypertrophy of the inferior turbinated bones, with dilatation of the pharyngeal orifice of the Eustachian tube. In concluding his remarks, he said that the sickness often complained of in these cases of nasal disease is generally produced by the fetid secretions which get into the stomach, causing nausea and interfering with digestion.

DR. SIMON BARUCH thought that this whole subject is entirely too much neglected by the general practitioner; and yet it is one which concerns him almost as much as the specialist, since, in a large number of these cases, there is no very well-defined nasal trouble. Since the publication of Hach's treatise, he has investigated the matter to a considerable extent, having secured a dispensary appointment for the special purpose of obtaining the opportunity of making rhinoscopic examinations, and learning how to treat nasal difficulties. He, therefore, availed himself of this occasion to relate briefly six cases in which various reflex symptoms were overcome by nasal treatment. One was a case of reflex cough, two were cases of headache occurring in young girls, one was a case of asthma, and one was a case of severe pain in the right side of the throat, associated with excessive sneezing. In the latter instance he found enlargement of the lower turbinated bone of the right side, and other nasal troubles, and the treatment adopted was that of the galvanocautery. He has also had a number of unsuccessful cases; but to these he did not refer particularly.

He regretted that in the discussion nothing had been said in regard to the examination and treatment of this

class of cases, as it is highly desirable, he thought, that general practitioners should be able to recognize and treat them before they get so bad that it is necessary to send them to a specialist. One of the most frequent conditions present is hypertrophy of the turbinated bones, and in his own experience he has usually found that this is easy to recognize; while the application of the galvano-cautery, if a good battery is employed, is an easy and efficient method of treatment.

DR. HENRY SCHWEIG said that he must take exception to the last remark of the previous speaker. He believed that there is no procedure which requires more care and judgment on the part of the operator than the use of the galvanocautery; so that, as a rule, only an experienced specialist is capable of properly applying it. While its judicious employment is very efficient, he felt convinced that the abuse of this method of treatment is much more frequent than its intelligent use. In order to accomplish the desired end, we should destroy the cavernous tissue without injuring the secreting surface of the nasal cavity, and the application should always be made from within outward, instead of the reverse. Unless care is used, great and permanent harm may result to the patient; and one very common error is to use too great heat; a dull red heat being all that is required.

THE PRESIDENT said he would take this opportunity to make some observations in regard to a point to which attention has never been called, so far as he is aware. For a considerable number of years he has noted the influence of catarrh, hypertrophy, and other changes in the nasopharyngeal cavity upon parts of the nervous system, which had not been alluded to in the present discussion. In a large number of children there are found what are known as peculiar bad habits, such as winking, frowning, drawing up the nose, twitching of the face, and shrugging of the shoulders. He has ascertained, however, that frequently these nervous phenomena are not due to bad habits at all; and thought, therefore, that every so-called bad habit should be investigated, for the purpose of finding out its origin. These cases are not always simple. What is at first a local chorea minor sometimes eventually results in a general chorea minor. Some twelve years since his attention had been called, by a work published in Bremen, to the fact that hemicrania is sometimes dependent on chronic pharyngitis and amygdalitis; and since then he had some hundreds of cases in which this local chorea was associated with conjunctivitis, rhinitis, pharyngitis, enlarged tonsils. In every case of local chorea he had found chronic nasal catarrh and chronic pharyngitis, and he had never found the nasal trouble without the pharyngitis. In many instances it was difficult to determine which of the two had been the original affection.

It is well known, he went on to say, that what is known as the third, or pharyngeal tonsil, in the back of the fauces, is frequently the cause of inter-pharyngeal abscess; but he believed that inflammation and enlargement of this pharyngeal tonsil are also common causes of chronic pharyngitis and chronic rhinitis. They also occasion migraine and hemicrania, and it is evident, therefore, that the whole nasopharyngeal mucous membrane is capable of giving rise to these reflex nervous symptoms. It is a point of practical importance to know that very often the treatment of only one small spot is all that is required.

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## BALTIMORE GYNECOLOGICAL AND OBSTETRICAL SOCIETY.

*Stated Meeting, January 12, 1886.*

THE PRESIDENT, GEORGE W. MILTENBERGER, M.D., IN THE CHAIR.

DR. L. E. NEALE read a paper entitled

### TWO CASES OF DYSTOCIA,

of which the following is an abstract.

*Case I.*—A white primipara, æt. twenty-five years, in labor at term with living child, presenting L. S. I. A., breech movable above superior strait, and unaccompanied by inferior extremities. Descent failing, the attending accoucheur resorted to chloroform, manual extraction, and Elliot's forceps, with an unsuccessful result. Another physician also tried, with the patient under chloroform, (a) manual extraction, (b) to pull down a foot. Dr. Neale was called in consultation and after many trials, including the use of Tarnier's forceps, which slipped, finally succeeded in bringing down a foot and extracting an asphyxiated child which was restored by Schultze's method. Mother well.

Dr. Neale called attention to the use of (1) Barnes's method of decomposition; (2) the obstetric forceps in such cases of difficult, *frank* (Pinard) breech labors. He referred to Tarnier's explanation of the cause of difficulty in engagement and disengagement being due to the legs *splinting* the trunk, and thus preventing flexion of the same; and he thought that this fact might indicate the propriety of Barnes's plan of treatment. He cited several authorities, and agreed with those who considered this method difficult, if not dangerous, when the breech occupied the pelvic cavity, and he was of the opinion that manual extraction directly upon the breech should not be utterly ignored. Most recent authorities sanctioned the use of the forceps in *frank* breech cases, Ollivier declaring that the instrument may be applied to the breech even at the pelvic brim. Lusk particularly recommended the Tarnier forceps; and Dr. Neale thought the instrument should be tried before resorting to more dangerous instrumental measures.

*Case II.* was one of contrac ed pelvis occurring in an Irish woman, thirty years of age, in labor at term with third child. Her two former labors were terminated by forceps operation, the child dying on each occasion; and in this, her third labor, with child presenting vertex R. O. I. P., head movable at brim, forceps and version both repeatedly failed, and the child here also died during the accouchement. Dr. Neale was then called in consultation, and with great difficulty succeeded in delivering by craniotomy a ten-pound child. The puerperium was normal. The external pelvic measurements were normal; the internal conjugate was about 2¾ inches; the symphysis pubis was about 2½ inches long, and had an exaggerated inclination, and there was, moreover, a marked thickening of the pelvic bones. The entire build of the woman was short, stout, massive, and powerfully muscular, and there was no sign or history of rachitis. Dr. Neale preferred version, when

practicable, to high forceps in contracted pelves not less than 2¾ inches in smallest diameter, and he cited authority in support of this view. In such cases as labor at term with living child, he would at once resort to version, if practicable; if impracticable, to high forceps, cautiously; and, failing in this, to craniotomy. With dead child, presenting head at the brim, to craniotomy at once. If such cases be seen early enough, labor should be induced by Krause's method (introduction of a bougie into the uterus) about the thirty-second to the thirty-fourth week of gestation; and even then, if necessary, deliver by version.

DR. H. P. C. WILSON said he had nothing to offer in regard to Dr. Neale's paper, except words of commendation, and he was ready to accept the teachings advanced. In his own practice, in cases of presentation of the breech demanding interference, he always brings down a foot. If the breech is engaged in the superior strait, he pushes it up into the uterus and brings a foot down, even if it is at the fundus uteri. He never exerts traction in the groin, either with his finger or the blunt hook, and never uses forceps in such cases. With greater experience, turning grows more and more in his favor.

He referred to the confinement of the wife of a friend in Copenhagen, in which case the head presented. After prolonged effort and failure with forceps, the child was removed by embryotomy. He felt certain, from the account he received, that, had turning been resorted to early, there would have been very fair prospects of saving the life of the child.

DR. B. B. BROWNE had succeeded twice lately in delivering the child with Tarnier's forceps, in difficult breech presentations, where the membranes had been ruptured several hours, the vagina hot and dry, and the breach firmly fixed in the superior strait. In a similar condition, several years ago, he had applied Elliot's forceps, but it slipped and failed to deliver the impacted breech. In all cases where the membranes are unruptured, or where the breech is not firmly wedged in the pelvis, he would prefer bringing down the feet rather than using forceps.

In reply to a question, Dr. Browne said he applied the forceps in these cases to the sides of the pelvis of the mother, and without reference to the portion of the breech upon which the blades would press.

DR. NEALE, in reply to a question, said, that in the first case reported, the blades of the forceps clasped the child over its hips. He thought, however, that the forceps would have a better hold if one blade was over the sacrum and the other over the anterior aspect of the opposite thigh, which is the method recommended by Dr. Lusk.

DR. THOMAS OPIE highly approved of the teachings set forth in Dr. Neale's paper. In practice he always makes due effort to bring down *both* legs in decomposing the impacted breech or in turning the child. The hand grasping both knees or one knee or thigh, has always a more secure hold than by a foot or even both feet, and the traction acts more directly and efficiently on the body.

DR. NEALE, in reply to Dr. Wilson's remark, said that he "always went for a foot" in breech cases requiring interference, and that he believed there were many cases in which it was practically impossible to bring a foot down, as when the breech already occupied the pelvic cavity and could not be pushed up into the uterus so as to free a foot.

# CORRESPONDENCE.

## ABSORBENT COTTON AS AN ELECTRODE COVERING.

*To the Editor of* THE MEDICAL NEWS.

SIR: Any new thing presented to the profession in a scientific journal being properly open to adverse criticism, I welcome the exceptions taken by Dr. Faught in the last number of THE NEWS to my communication, on "Electrode Coverings," of December 26, 1885. But a few words will, however, be necessary to indicate his misconception of the meaning of my remarks.

If Dr. Faught had read my original article on this particular subject of minor electrotherapy, published February 7, 1885, to which the later communication was distinctly stated to be "additional," he could hardly have fallen into the error of mistaking the measurement of *wet* cotton and *wet* sponge for a measurement of either the specific or contact resistances of the dry materials. The object of either material, it was explained, is merely the maintenance of a layer of water to act as a conductor between the metal and the tissues. It is obviously absurd to speak of altering the contact resistance of a surface of *water* by pressure. The specific resistance of the compound conductor made up of sponge, or absorbent cotton and water, was the only resistance referred to, and its variability under pressure is readily understood by any one who reflects that heavy pressure makes the layer of water and cotton thin, and consequently a shorter conductor, while light pressure leaves this imperfect conductor longer. The subject is entirely foreign to Sir Wm. Thomson's remarks on the pressure of resistance of solid bodies (in which the resistance *increases* with the pressure).

The experiments were made to illustrate the varied resistances of these compound conductors under similar conditions of thickness and pressure. The actual amount of pressure was not measured, since no two persons press alike on an electrode, but the three degrees were selected as those likely to occur unintentionally during any application of electricity. Lacking these exact determinations of the pressure, any calculations of the ohms found are worthless for comparison, and only confusing to the general reader. The smaller resistance of wet absorbent cotton that is demonstrated by the experiments may or may not be a material advantage with an abundance of cells at command, but the later article points out a more important reason for its use at certain times, namely, the lessened *invariability* of the current under accidental differences of pressure on the electrodes.

Electrode disks can be as evenly covered with absorbent cotton as by cotton-cloth, patent lint, and chamois skin; but even if the disk happens to be covered very irregularly by the former substance, its superior water-absorbing properties will make it a more uniform conductor than the older materials.

Dr. Faught has kindly calculated for me the number of ohms that I must have found in the resistance of the two materials. The results are somewhat clouded by

the assertion that he allows "100 ohms for the metal circuit." That would necessitate the use of twenty-five thousand feet, or nearly five miles of copper wire, in my office, at the well-known rate of two hundred and fifty feet of wire of ordinary size to one ohm. The distance from the keyboard of my battery to the cellar and back is by no means so great.

I am, sir, very truly yours,

G. BETTON MASSEY.

## NEWS ITEMS.

THE FEMALE PHYSICIANS practising in Paris are now eight in number. The first on the list is Mme. Madeleine Brès, who received the title of Doctor in Medicine in 1875. Then Mlle. Clarisse Daniel, Health Officer, in 1876; Mme. Boucher, Doctor in Medicine in 1878; Mlle. Verneuil, specialist in cerebral disorders, Doctor in Medicine in 1879; Mlle. Rosa Perrée, Doctor in Medicine in 1881; Mlle. Benoil and Mme. Berline, Doctors in Medicine in 1883; and, finally, Mme. Inès Sâches-Serrante, in 1884.

Two female medical students, Miss Plunkett and Miss Blanche Edwards, passed the last competitive examination for hospital positions with success.—*Gazette de Gynécologie*, Jan. 1, 1886.

CONSUMPTION OF SPIRITS IN AMERICA.—The great drink cycle in this country has reached its highest point and started back on the descending scale. The Internal Revenue Department indicates that for the year ending June, 1885, this decline was nine millions of dollars less taxes paid than the year before; showing a greatly diminished production of spirits. From the same authority it appears that the number of persons engaged in the liquor traffic, who have paid special taxes to the State or Government, has steadily declined since 1883. These are unmistakable hints of the operations of the laws which govern the rise and fall of the production and use of spirits in this country.—*Quarterly Journal of Inebriety*, Jan. 1, 1886.

THE HUNGARIAN MINISTER OF EDUCATION has asked M. Pasteur if he will receive a medical man sent by the Hungarian Government for the purpose of receiving instruction in the prophylaxis of hydrophobia. M. Pasteur has readily consented to the request; and Professor Babes, of Buda-Pesth, will probably be accordingly sent to Paris.—*British Med. Journal*, Jan. 16, 1886.

DR. C. W. KELLY, of Louisville, Ky., has been elected one of the Vice-Presidents of the Section of Anatomy of the Ninth International Medical Congress.

TEMPERANCE IN AMERICA.—At a meeting held on the 12th inst., at Prince's Hall, Piccadilly, the Venerable Archdeacon Farrer, D.D., gave an interesting account of his experience of the temperance legislation which exists in some parts of America. There are no less than five States of the thirty-six which have adopted a stringent measure of absolute prohibition, which has been productive of most beneficial effects. In the State of Maine the prohibitory law has been in force twenty-two years, and there is only one convict to every 1600 of the population; whereas in Massachusetts, where there is no liquor law, there is one convict to every 500 of the population. In Trimble county, Kentucky, which has adopted the liquor law, during the last year there has not been a single criminal case, not a single prisoner in the goal, and not a single pauper in the county. Kansas adopted the prohibitory liquor law in 1881, and during nine months of 1880, when it was under free whiskey rule, there were 264 convicts, while in nine months of 1881, when the prohibitory liquor law was in force, the number of convicts was only 148; and in a town in Illinois, with a population of 2500, there had not been a single arrest in twenty months.—*Lancet*, Jan. 16, 1886.

THE PREVENTION OF MYOPIA IN SCHOOL CHILDREN.—It is now tolerably well established that shortsightedness is developed and increased in a certain direct relation to the amount of school-work done by children. For the prevention of myopia, FUCHS, of Liège, in a prize essay, quoted in *The Birmingham Medical Review*, gives the following directions: First in importance are the arrangement and lighting of the schoolroom.

"The principal windows in England should look to the south or southeast. The long axis of the room should run north and south. Every scholar should, from his place, be able to see some portion of the sky. Light from above is the best, and, except in hot climates, glass roofs are very advantageous. The chief light must come from the scholar's left side. The height of the top of the window from the floor should not be less than two-thirds the width of the room. The total window surface should bear to the area of the floor a proportion of at least one to five. In artificial lighting by gas, every burner must have a glass chimney and a shade, the latter arranged to reflect the light down upon the desk, and to screen the scholar's eyes. There should be about one burner to every four scholars."

It is most important that the eyes should not be approximated too closely to the book. The proper position is that in which the shoulders and pelvis are parallel with the edge of the desk, and the head upright or bent but slightly forward. As to the construction of desks and seats, there must be several sizes to suit scholars of various ages; the distance between seat and desk, in the vertical direction, must be but little greater than the distance between the elbow and the ischial tuberosity. The edge of the desk must overhang the seat about two inches; the scholar can then sit upright. The surface of the desk must slope about one in five to obviate the bending forward of the head; and the breadth should not be less than fifteen and a half to sixteen inches. All stooping should be avoided, and the types used must be perfectly legible.—*British Medical Journal*, Jan. 16, 1886.

PARIS FACULTY.—DR. DUCLAUX has been appointed to the new chair of Biological Chemistry in the Faculté des Sciences.

### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 19 TO JANUARY 25, 1886.

WEBSTER, WARREN, *Major and Surgeon*.—Leave of absence further extended nine months on account of sickness.—*S. O.* 15, *A. G. O.*, January 19, 1886.